THE
RAILWAY GAZETTE

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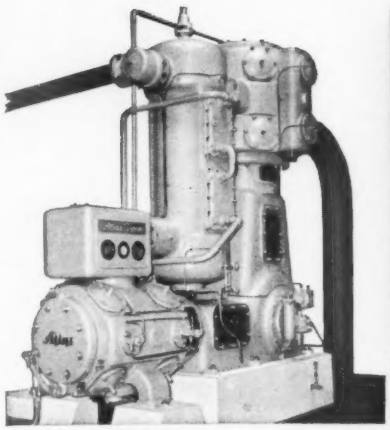

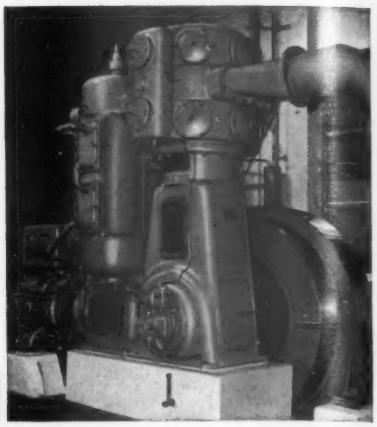

An Atlas Copco AR7 Compressor with special centre-mounted dials at the DEMKA steel foundry, Holland. This foundry produces over 200,000 tons of steel and steel products a year. Its products range from 50 ton Forging Ingots and Castings to common wire nails, and it uses a wide variety of Atlas Copco pneumatic tools.

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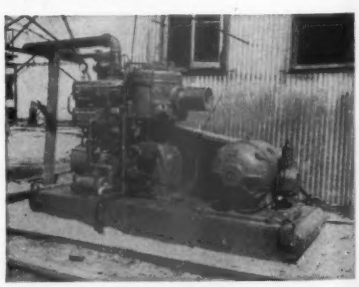
PERFORMANCE FIGURES OF ATLAS COPCO AR COMPRESSORS

Type	Maximum pressure lb./sq. in.	Speed at ▨ cycles r.p.m.	Low-pressure piston displacement cu. ft./min.	Free air delivery at 100 lbs./sq. in. cu. ft./min.	Power required at 100 lbs./sq. in. h.p.	Cooling water required at 60° F approx. gal./hr.	Weight lbs.
AR 1	120	600	400	330	62	310	3000
AR 3	120	500	715	570	105	500	5400
AR 4	120	429	910	760	138	680	6600
AR 5	120	375	1235	1000	186	880	9000
AR 7	120	333	2120	1740	318	1520	14500
AR 9	120	300	4020	3210	586	2920	26400



A skid-mounted Atlas Copco AR Compressor in operation at Pima Mining Co., Arizona, U.S.A.

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Rewards for Responsibility

THE raising of the remuneration of the boards of the major nationalised industries, on which the Government has decided, to £10,000 a year for chairmen and £7,000 for other members, is a step in the right direction. The existing salaries are £8,500 (£7,500 in the case of the National Coal Board) and £5,000 respectively. The increase in the emoluments of the Chairman and Members of the British Transport Commission raises the "ceiling" which has too long, and quite unnecessarily, depressed the salaries of officers of British Railways. The way has been opened for increasing their remuneration. There is no reason why the salaries of senior executives of the nationalised railway undertaking should be governed by those of Members of the Commission; the increase in the emoluments of the latter has removed any imaginable obstacle to raising the salaries of General Managers of the Regions and Chief Officers both of the Regions and of British Railways Central Staff and indeed of officers of lesser status, which still cannot compare with those of men with similar responsibilities in other walks of life. On the grounds of efficiency, which depends largely on good morale, there are urgent reasons for according to railway officers the recognition of their services and responsibilities that a reasonably high salary, commensurate with that of their equals in other occupations, denotes. High taxation and the decline in the purchasing power of the pound mean that officers of British Railways will remain considerably poorer in most cases than their counterparts on the prewar company-owned railways; in this they are in a similar position to most men holding arduous and important positions in industry. The augmentation of the nationalised board members' salaries has been criticised, with those of junior ministers, M.Ps., many civil servants, and others recently announced, as contributing to inflation. What are separate matters must be so regarded. It is unfortunate perhaps that pay increases to men responsible for the direction of major industries should have been mentioned simultaneously with those of the others. The former are few in all, and the resultant increased financial outgoings in respect of their salaries and the consequential increases to senior officials of the undertakings concerned will be relatively small, though of the utmost importance for efficiency.

N.U.R. Claim for Shorter Hours

AT the conference of the National Union of Railwaymen at Southport last week the executive committee of the Union was directed to negotiate with the British Transport Commission for a 40-hr. week and an additional week's winter leave for all railwaymen. Mr. J. Campbell, the General Secretary, maintained that mechanisation increased mental stress, and that the 40-hr. week must not be made an excuse for further overtime. It seems that the N.U.R. is more concerned to lessen redundancy through this measure than to gain extra overtime pay. The same resolution called for full consultation between the Commission and the Union on changes occasioned by modernisation. It might have been thought that the existing machinery for joint consultation would have sufficed, but evidently the N.U.R. is concerned to drive its point home and possibly to extend the scope of the present arrangements. Another clause in the resolution dealt with the vexed point of work being given to private contractors at the expense of railway workshops. The Union is asking for an inquiry into this, but it is most improbable that the Commission has ever deliberately starved its own workshops.

Mr. James B. Thom

THE retirement of Mr. James B. Thom from the office of European Manager of Canadian National Railways, a position which he has filled with distinction for the last 10 years, will leave a gap of which many of his friends in this country are fully aware. During the time that he has served the C.N.R. in London, Mr. Thom has established a very wide range of close personal friendships, not confined to the railway and allied industries. His unfailing courtesy and willingness to be helpful in many spheres has earned him well-merited tributes at a number of farewell functions given in his honour during recent weeks. On Wednesday last, Mr. Thom held a reception at the Dorchester Hotel in London to introduce his successor as European General Manager, Mr. Joseph C. Kenkel, and Mr. R. H. Tarr, Secretary of the C.N.R., to a large gathering of railway officers and executives of allied and manufacturing industries. The number who attended this function was in itself a tribute to the esteem in which Mr. Thom is held and to the success which he has achieved in his efforts to promote the wellbeing in this country not only of the Canadian National Railways, but of Canadian interests generally.

Contact with Clients by Teleprinter

EVERY trader or other railway user or potential user in Britain with a G.P.O. teleprinter in his office can now get into immediate touch with any district goods manager in the London Midland Region of British Railways. The

development is a result of the extension of the London Midland Region domestic teleprinter network, opened in February, and its connection with the G.P.O. Telex service. Thirteen district goods offices are now linked by teleprinter with the Chief Commercial Manager at Euston and 25 important goods stations and offices brought into the facsimile telegraphy "letters by wire" service. The whole of the extension work was completed, in conjunction with G.P.O. engineers, in less than two months. As a special arrangement, traders may send their teleprinter messages to the nearest district goods office instead of direct to a distant one, saving the epxense of a long-distance call. Traders abroad could also, if the need arose, send messages by teleprinter direct to L.M.R. district goods offices and the Chief Commercial Manager at Euston. Taken in conjunction with the application of the new charges scheme and the new traffic organisation which is being introduced in the Region, this is an admirable example of what can be done by improved technical methods to help the promotion of traffic.

Earlier Publication of B.T.C. Reports

WE have on several occasions criticised the length of time between the end of the year reviewed in an annual report of the British Transport Commission, and the publication of the report, as this time-lag detracts from the value of what should be as far as possible a contemporary document presenting to the public an up-to-date picture of the affairs of a vital public utility. The 1956 report, for instance, was published on June 26 last; the matters, therefore, of which it treats date back from six to nearly 18 months. The statement of accounts for 1956 was signed on May 10, 1957; so that, allowing at least a month for audit, the accounts were ready probably in early April. That is an achievement for the greatest single commercial undertaking in the world—especially in view of the inevitable complexity and detailed investigation of railway accounting. We are fully aware of difficulties such as time taken in printing, although recent increases in printing costs in this country have reduced the amount of work printers have in hand. Nevertheless, the point remains that much of the value of the report may be lost by delay in its appearance. The narrative portion might well have been made ready considerably earlier than April. The statutory requirements are onerous, but not all of them are such as to be of great interest to the public.

Increasing Passenger Comfort

IN the first and second class British Railways prototype compartment coaches built by the Gloucester Railway Carriage & Wagon Co. Ltd., exhibited at the recent Modern Railway Travel Exhibition at Battersea, and described elsewhere in this issue, the most remarkable features are the system of induced air ventilation and the automatic temperature control. Ram-type air collectors fitted on the body side are employed, the air entering the compartment after passing over the steam heating radiators fitted under the passenger seats. An extension of this arrangement, fitted into two compartments of the first class coach, is a fully automatic temperature control system, in which a thermostat is used to adjust mechanically the proportion of air passing over the heaters. While it remains to be seen how successful these systems prove in normal operation, the builders are to be congratulated on what appears to be a successful attempt to develop heating and ventilating equipment which is robust, simple, and capable of being easily maintained.

Natural versus Synthetic

ANOTHER example of the work of a private contractor, seen at the Exhibition, was the prototype first class open saloon built by the Birmingham Railway Carriage & Wagon Co. Ltd., and also described on another page. The main features of this vehicle are the reclining seats with adjustable head pillows, increased leg room, and an impressive interior décor which employs generally dark hues of wood panelling, upholstery, and carpeting contrasting with fluorescent lighting fitted behind a pierced suspended ceiling. Individual spotlights for reading purposes are built into the luggage racks. The view that modern plastic-faced wall surfaces may not be completely superior to a natural wood veneer finish for all rolling stock interiors is emphasised by the decision of the builder to use the latter for the saloon interior because of its ability to retain a good appearance even in conditions of harsh wear: laminated plastics, however, have been used for the toilet compartments, a combination which indicates that natural and synthetic materials each have their own particular advantages and that they are, in fact, best employed as complementary to each other, so increasing the attractiveness, cleanliness, and length of useful life of modern passenger coach interiors.

Opportunity for British Railways

THE fundamental change which took place in British railway freight charging methods when the new Merchandise Charges Scheme came into force on July 1 is emphasised by "The Man on the Line," in the July issue of *British Railways Magazine*. Explaning the meaning of "loadability," which plays such a large part in the new system, he states that "light bulky goods take up a lot of room; compact, heavy loads do not. The former have poor loadability; the latter have good loadability." For practical purposes, this is one of the simplest and most useful definitions that has yet been coined. By the application of the system, he tells his readers, British Railways will encourage traffic in large quantities and good wagon-loads, and will offer special inducements to regular traffic for which economical services can be arranged. Furthermore, good-loading long- and medium-distance traffic now passing by road should be attracted to rail. With modernisation, re-equipment and increased productivity, the charges scheme is one of the principal means by which prosperity will be restored to British Railways. "The Man on the Line" leaves no doubt of its importance when he exhorts the staff of British Railways to grasp this opportunity with both hands.

Power-operated Signalling in East Africa

THE first power-operated signalling layout in East Africa and a handsome modern passenger station were formally inaugurated recently at Nakuru by Sir Evelyn Baring, Governor of Kenya, as briefly described on another page. The ceremony marked the completion of a remodelling scheme carried out by East African Railways & Harbours, at Nakuru, involving also a new locomotive shed and freight yard, brought into use some years ago The works have been necessitated by the growth of traffic. As our account shows, the signalling presents several features of interest. A significant feature is the extent to which, with imported training facilities, complex equipment can be entrusted to the increasing numbers of African technical staff. In his speech at the inaugural ceremony, Mr. W. Urquhart, Deputy General Manager of E.A.R. & H., stated that portions of the single line were operating almost to capacity with steam traction and this, with the prevailing water shortage, necessitated an alternative form of traction; the report on an investigation held into the possibilities of diesel and electricity for traction purposes had not yet been received. "It is very probable," he added, "for operation and financial reasons, that diesel will prove to be the answer to our requirements for many years to come"—a significant statement, in view of the reported possibilities of using hydro-electric power for extensive electrification.

Mechanical Stokers for Freight Locomotives

THE experiment of fitting five standard 2-10-0 steam locomotives with mechanical stokers, to be undertaken by British Railways in the near future, is the more interesting in that the object is to determine to what extent this will enable them to haul heavier loads of continuously-braked

wagons at the higher speeds required under the modernisation plan. With normal manual firing, the maximum number of loaded 16-ton mineral wagons that these locomotives can haul at average speeds of up to 42 m.p.h.—the overall speeds required by Class "C" schedules—is 37; it is hoped that mechanical stoking will enable this load to be increased to 53 wagons. Previous experiments with a Southern Region "Merchant Navy" Pacific showed that good results could be achieved with mechanical stoking using poorer coal than usually supplied, so that there are grounds for believing that even with the higher rate of firing which seems to be envisaged fuel costs may not be excessive. The locomotives concerned are Nos. 92173-92177, to be built at Crewe for the London Midland Region. If the experiment is a success, other similar locomotives may be fitted. The stokers are being supplied by the Berkley Stoker Co., Ltd.

A "Fairlie" Returns to Service

ONE of the earliest locomotives of the Festiniog Railway, and one of the last two Fairlie double engines in Europe, was returned to service on the line a few weeks ago. Built in 1885 and named *Livingston Thompson*, the locomotive, with its curious back-to-back construction, served the 1-ft. 11½-in. gauge line for many years until declining traffic forced the railway to neglect repairs and let the locomotive stock fall into decay. The Festiniog Railway Society Limited, a band of devoted amateurs which has been restoring part of the railway to active use, asked the Vulcan Foundry Limited to undertake restoration of the locomotive—renamed *Taliesin* when the original single Fairlie *Taliesin*, built by Vulcan in 1876, was withdrawn in 1930. Vulcan staff worked on the locomotive at the Festiniog works at Boston Lodge and *Taliesin* now seems in perfect condition. As Mr. Gerald Collingwood, Managing Director of the Vulcan Foundry Limited, stated in the course of a Press visit to the line arranged last week by the English Electric Co., Ltd., of which Vulcan is an associate, the opportunity to work on a locomotive of this type was "like a breath of fresh air" in these days of diesel and electric traction. It is to be hoped that the rapidly growing passenger traffic on this historic railway will enable the second Fairlie locomotive to be restored in similar fashion.

Closing Unremunerative Branch Lines

THE Minister of Transport & Civil Aviation, Mr. Harold Watkinson, informed Parliament in a written reply last week that he had asked the Central Transport Consultative Committee to take "the exceptional course" of holding a public inquiry into the proposal to close the railway line of the Southern Region between Lewes and East Grinstead. This decision arises from the special report made by the Committee to which the British Transport Commission Private Bill was referred, and which recommended that further consideration should be given by the Minister to the possibility of holding an independent public inquiry before a final decision was taken on the closure of the line. It seems most unfortunate that when British Railways try to improve their financial position by eliminating uneconomic services, they should be subjected so frequently to such pressure, both in and out of Parliament, that long delays ensue.

Admittedly there are unusual circumstances in this case. In 1954, the Commission wished to close this section of line—which has become known recently as the "Bluebell Line" after the country through which it runs—because an annual loss of some £60,000 was being incurred. In accordance with the normal procedure, the matter was referred to the local Area Consultative Committee, which in November, 1954, approved the proposal for closure after providing full opportunity for objections. Its decision was confirmed by the Central Committee in February, 1955, and the line was closed in the following June. By diligent research a local resident, who had been indefatigible in opposition to closure, unearthed an agreement, incorporated in legislation, between the original company, the Lewes & East Grinstead Railway Company, and the London Brighton & South Coast Railway, which vested the line in the latter undertaking but required that four trains be run in each direction daily with four named stops. The Commission inherited this obligation, but its legal department was previously unaware of it. As soon as it came to light, the line was reopened and has since continued to provide these statutory services. They are poorly patronised, though trains run at reasonably convenient times, with fairly good connections at East Grinstead and Lewes respectively with London and Brighton. Nor does the agricultural district seem able even to originate traffic sufficient to support a frequent bus service.

That was in August, 1955, and early this year the Commission sought in its Private Bill to repeal the relevant section of the old Act, to relieve it of this costly obligation. When the Members with constituency interests in the line indicated their opposition, the Commission deemed it wise to give them an undertaking that if repeal were granted they would again refer the proposed closure of the line to the South Eastern Transport Users' Consultative Committee. This was accepted, and the opposition was withdrawn. When the Bill came before the Committee on the Bill a petition against the repeal clause was filed by the diligent local resident and a lengthy hearing with counsel took place. Presumably, because of the forceful protest of the petitioner and the contention that local residents had not been given adequate opportunity to state their objections, the Committee made its special report recommending a further inquiry.

The Minister did well to reject the Committee's proposal for an independent inquiry and to use the consultative machinery instead; otherwise an unfortunate precedent would have been set and reflection cast on the ability and integrity of the Consultative Committees. As it is, it is hard to understand the by-passing of the Local Committee and the Minister's choice of the Central Committee to conduct a local public inquiry. The Area Committees are representative of local authorities and organisations and provide full opportunity for local opinion to be heard. They ought, therefore, to be in the best position to judge the issues. When the Local Committee considered the case it agreed to closure. As the Central Committee concurred with its decision, it also was involved; so neither body can be said to be more or less objective than the other. Were it not for the discovery of the old Act, with its out-of-date requirements, the railway would have remained closed and no more heard of the matter and the Commission better off to the extent of £60,000 a year. The chance discovery of the Act framed to meet public transport needs before the invention of the internal combustion engine does not alter the merits of the case.

The Commission acted generously in offering a resubmission to the Local Committee, but this promise is superseded by the Minister's decision for a full-scale public inquiry by the Central instead of the Local Committee. The matter is thus reopened and more delay results, apparently because public opinion is deemed not to be satisfied. Unfortunately that is inevitably the case when branch lines are closed, and at least part of such opinion is expressed by those who rarely use the line in question. Whatever the outcome of the inquiry—and on its merits there should be little doubt—it is to be hoped this bringing in of the Central Committee to deal with a local question will not be repeated. If it became a precedent, the whole consultative machinery would be undermined and the Commission faced with even more difficulty and delay in the closure of branch lines. If the nationalised transport undertaking is to be allowed to operate commercially, as it is required to do, there must be as little delay as possible in obtaining the necessary authority to suspend unremunerative services, once the proposal has been made, provided always there is full opportunity for affected parties to make their objections known. Hitherto the consultative machinery has provided this and proved adequate. It is regrettable that in this case a different procedure is to be followed.

Railway Development in the Commonwealth

THE vital importance to the economy of the United Kingdom, apart from political, social, and economic implications of great significance for the whole of the British Commonwealth, of adequate investment by this country of capital in the fast-developing territories of the Commonwealth, and the supply to them of the capital goods they require, is a subject that does not receive the attention which it should. The Commonwealth Prime Ministers' Conference ostensibly has committed itself no further than admitting, by implication, the failure of the Commonwealth to supply capital for development of its members, and it has declared that the United Kingdom will continue to play its "leading rôle in furthering economic development."—in which, we maintain, this country is not doing enough; the official statement also states that it is "important to encourage investment from other sources on suitable conditions" and refers to an expansion of the functions of the Commonwealth Economic Committee.

On the other hand, the meeting of Commonwealth Finance Ministers to discuss trade, in Ottawa in the Autumn, proposed by the Canadian Prime Minister, Mr. J. G. Diefenbaker, and his further proposal for a subsequent Commonwealth Economic Conference are helpful suggestions provided that they result in prompt action to promote capital development; at least they seem in the last few days to have helped to create an awareness of the development problem in Parliament and elsewhere. There also seems to be a good deal of opposition—more, perhaps, than the United Kingdom Government bargained for—to any form of participation in the European Free Trade Area which may have the effect of lessening British investment, or even interest in Commonwealth territories as potential fields for investment, apart from the possible effects of such participation on prices.

Particularly timely, therefore, were the trenchant remarks by Sir Roy Welensky, Prime Minister of the Federation of Rhodesia & Nyasaland, made on the eve of the Prime Ministers' Conference at a luncheon in London given by our associated contemporary, *New Commonwealth*, to a number of men nearly all concerned with the economic welfare of the British Commonwealth—as representatives of the United Kingdom or overseas governments, or administrators, or in the field of finance, or in various branches of industry, including railways. He reminded his hearers that the Federation, which buys two-fifths of its total imports from Britain, gives the United Kingdom preference under tariffs, as do other members of the Commonwealth; but that as a territory facing the problem of finding development capital, his country had two choices. If capital were not available from traditional sources—by which Sir Roy Welensky meant Britain—the Federation, which already had borrowed small amounts from the U.S.A., might reluctantly be compelled to go to other sources. The borrowings outside the Commonwealth which he referred to as an unfortunate alternative for the Federation have already taken place on a large scale in the case of other rapidly developing territories, not least for railway development, and, in several territories, further such borrowings are already contemplated. We agree with Sir Roy Welensky that, if political ties between members of the Commonwealth are to weaken, as they are bound to do, everything possible must be done to strengthen economic links. In view of the limited supply of capital available, it may well be that funds for development can be found only by reduction of social services—an unpalatable alternative to many, even as a temporary measure—but probably the lesser evil, when compared with that of allowing the development of potentially rich regions to go by default—or into foreign hands. Sir Roy Welensky was right to point out that development was not only a question of money, which was only a counter. What the Asian and African and other territories needed for development and expansion, he stated, was goods; "so one of the things people have to do is work."

The importance of railways in economic development of many different kinds of Commonwealth territories is obvious. Most responsible people are aware of the great potentialities of a railway in development of a country as a carrier of produce, and of capital and consumer goods over long distances. The economics of new railway construction are more than ever the subject of attention, and new railways are now building, or have been completed recently in environments as different as Ghana, Southern Rhodesia, Uganda, India, and Northern Canada; and new lines are planned in these and other territories. That, however, is far from completing the picture. Whatever may be the immediate future of new railway construction—and it may be some little time before it is possible to embark on further major projects—there is a very bright immediate future—and indeed a present—for improvement and development of existing lines, occasioned by growing traffic. There is hardly a Commonwealth country overseas, except for a few islands with restricted lengths of rail haul, which is not crying out for additional motive power, rolling stock, signalling, or centralised traffic control or other means of increasing capacity. Much, as our pages show, has already been done, but much remains. The United Kingdom can supply what is wanted—even in the face of the demands of the home railways—but it is for this country to make the effort to enable the countries concerned to buy what they need from here—and ensure punctual deliveries. When development loans are obtained from outside the Commonwealth, and even more, when they are associated with arrangements for supply of goods from the lending country, a further weakening of links in the British family of nations is bound to take place.

Trends of Freight and Passenger Train Traffic

THERE is a remarkable contrast between the current trends of freight and passenger business on British Railways. No. 5 of *Transport Statistics* shows a distinct setback to freight train traffic in the four-week period to May 19, contrasted with bright prospects for developing passenger traffic in the immediate future. Freight traffic originated to the extent of 21,035,000 tons was the least quantity for the fifth period of any year since nationalisation. The decrease from 1956 was 1,023,000 tons, or 4·6 per cent, and from 1953 about twice that amount, or 9 per cent. Over the past four years industrial output improved steadily, but merchandise put on rail during the fifth period dwindled by 15 per cent, while coal class tonnage was down by 11 per cent or by nearly 1,600,000 tons. Minerals alone showed an increase of 100,000 tons, or 2 per cent.

In the four weeks to May 19 freight train receipts were £1,700,000, or 7·4 per cent, less than last year and decreased again in the next four weeks to June 16 by £757,000, or 3·4 per cent, representing another substantial loss of tonnage. This downward trend is disquieting because the all-industries index of production for April and May is believed to be at least 2 per cent above the index for these months in 1956.

In the four-week period to May 19, British Railways worked 140,738,000 ton-miles fewer than last year, a decrease of 8·1 per cent. All Regions moved a smaller volume of traffic, and apparently the length of haul for many commodities was shorter than a year ago. The rate of increase in traffic volume during the early weeks of the year was not maintained. For 12 weeks to March 24 tonnage was up 4·9 per cent and ton-mileage 4·6 per cent. For 16 weeks to April 21 these percentages were 3·9 and 2·8 respectively, while for 20 weeks to May 19 they fell to 2·2 and 0·6, with the certainty of being lower for 24 weeks to June 16. The British Transport Commission report for 1956 states that "the recovery of traffic to rail as a consequence of the fuel shortage will fall to be dealt with in the next report!" It is to be feared that by June, 1958, the amount of such traffic retained by the railways will be trifling compared with the tonnage lost to other types of transport through the 10 per cent increase in freight charges which comes into force on August 1, 1957.

In the first three months of this year, British Railways

carried 264,996,000 passengers, an increase of 32,806,000 on the first quarter of 1956. This advance of 14 per cent was due in part to restricted oil supplies, but passenger business took an upward turn after the effect of the petrol shortage tapered off. In April, 94,188,000 journeys were made by rail, an increase of 4,588,000, or 5·1 per cent. The improvement may be inflated because 32 per cent of the total journeys were made by season ticket holders, but passenger takings in April rose by 26 per cent from £9,612,0000 to £12,146,000 and remained at a high level in May and June. There was a revival in first class travel this year, the number of journeys rising in April by 243,000, or 13 per cent, to 2,058,000. Takings from the higher class passengers were up 22 per cent, the average fare of 12s. 7d. being 8 per cent more than a year ago.

These developments are putting fresh life into the passenger department's staff. At the end of June the rolling stock exhibition, which was held at Battersea, showed that the railways had attractive novelties in passenger transport to sell to the public. The diesel multiple-units included in the display have great possibilities for increasing receipts and reducing operating costs of interval services, both on main and branch lines. Much will depend on the capacity of the diesel trains to stay in traffic for long spells without requiring major repairs. The final test of their success will be the net revenue earned when all factors of expense are taken into account.

Meantime there is plenty of scope for publicity about faster steam train services, especially on the East and West Coast routes, and other facilities designed for the convenience of travellers on our railways. The future outlook for passenger business is full of promise, provided that railway fares can be held at a reasonable level.

The Gateway of Calcutta

AS is only to be expected of a city with 3,500,000 inhabitants, Calcutta is a great railway centre, some 150,000,000 passengers travelling over its railways annually. The two termini, Sealdah and Howrah, together deal with 400,000 daily, and with electrification to serve both in the near future this figure is likely to be greatly exceeded. The present totals at Sealdah and Howrah are 250,000 and 150,000 passengers in the average 24-hr. period, but whereas long-distance traffic at the former is probably only about 8 per cent, it constitutes 20 per cent at Howrah, or 30,000 people coming from and going to all parts of India. The traffic at Sealdah was described in our issue of February 15, and that at Howrah is the subject of an article on another page. Howrah is the terminus not only of the Eastern (the old East Indian) Railway, but also for South Eastern (former Bengal-Nagpur) Railway traffic.

Lacking the elaborate external ornamentation of Victoria Terminus, Bombay, and some other Indian stations, Howrah passenger station is an impressively solid and essentially practical-looking building, and with its 13 platforms it covers a greater area than any other in India, if not indeed in the East. The adjoining goods station with its extensive yards abuts upon the west bank of the Hughli River, and is conveniently situated to handle river-borne traffic. As will be noted from the article, the widespread yards and approaches to the station have—in anticipation of modern practice—always been controlled by a single centrally-situated signalbox. This has been kept up to date from time to time with contemporary equipment, namely electro-pneumatic installed as long ago as 1906, and a more modern power installation since 1936; it controls over 1,600 movements in the yard daily.

The proposed remodelling measures to enable full advantage to be taken of the electrification—due to be completed by the end of this year—and to cope with the inevitable increase in traffic, are of interest. The flyover to divert goods traffic over the passenger lines instead of cutting across them should prove to be invaluable; the same remark applies to the separation of the road goods traffic from passenger vehicles on the station approach by the provision of an overhead diversion. Other improvements in hand or planned, though more orthodox, are none the less important, especially the additional platform and parcels accommodation. In passing, it may be noted that the passenger amenities are thoroughly modern—including a "coffee corner"—and that "air-conditioned" is now a separate passenger classification, in fact, a super-first class.

Scottish Region Summer Timetables

THE principal changes in the summer timetables of the Scottish Region are in the services to and from England. The new expresses—the 7.30 a.m. "Morning Talisman" from Edinburgh Waverley to Kings Cross and the 8.30 a.m. "Caledonian" from Glasgow Central to Euston, with their return workings arriving at 2.15 and 10.55 p.m. respectively—make no stops in Scotland. The southbound "Caledonian" provides a departure for London from Glasgow 90 min. earlier than ever previously possible by the West Coast Route, and an arrival 1 hr. 50 min. earlier than that of the "Royal Scot" in 1939 and 2 hr. 5 min. earlier than now; the southbound "Morning Talisman" starts 35 min. earlier than the 8.5 a.m. in 1939 and arrives 2 hr. earlier than the latter's connection from Newcastle to Kings Cross. Equally, the down "Caledonian" permits a departure from Euston for Glasgow 2¼ hr. later than ever previously, and the down "Morning Talisman" affords an Edinburgh arrival from London 1½ hr. earlier than ever before. These are substantial gains.

It is a pity that the down "Morning Talisman" misses the 2.15 p.m. from Edinburgh to Dundee and Aberdeen by no more than 15 min., just as the down non-stop "Elizabethan" misses the 4 p.m. from Edinburgh to Perth by 5 min.; but passengers by the former, after a rather prolonged wait of 1½ hr., will be able by taking the 4 p.m. to Perth to connect there with the 6.5 p.m. to Inverness, with through coaches from Edinburgh to Inverness—the first time on record that it has been possible to travel from London to Highland line stations without night travel, though the reverse process has been practicable for many years past.

By the acceleration of the morning express from St. Pancras to Edinburgh, now leaving at 9.15 a.m. and called the "Waverley," new and useful connections are made from Nottingham, Sheffield and Leeds to both Glasgow and Perth. Arrival at Carlisle is at 4.2 instead of 4.27 p.m. (40 min. acceleration), so connecting with the 4.15 p.m. to Glasgow Central (arriving 6.38 p.m.), and the 4.26 p.m. to Perth (arriving 8.25 p.m.). The journey time from Leeds to Glasgow by this service is 5 hr. Also the "Waverley" runs correspondingly earlier from Carlisle to Edinburgh, arriving at 6.52 instead of 7.17 p.m. Here again it is unfortunate that the 6.45 p.m. from Edinburgh to Dundee and Aberdeen is missed by no more than 7 min. Due to the Clay Cross tunnel reconstruction, the 9.15 p.m. sleeping car express from St. Pancras to Glasgow is 21 min. later out of Carlisle, at 5.41 a.m., but by an acceleration of 21 min. reaches St. Enoch at 8.30 a.m. as previously.

This summer the relief 10.15 a.m. express from Glasgow to Euston is not run, and its through Plymouth coaches are therefore transferred to the 10.5 a.m. from Glasgow to Birmingham, except on Fridays and Saturdays, when a restaurant car express for Plymouth leaves at 10.15 a.m., with a Euston portion on Saturdays only. Because of the cancellation of the 10.15 a.m. from Glasgow, the 10 a.m. "Royal Scot" calls at Carlisle passenger station, as in winter, to pick up passengers for London; the set of coaches which last summer formed the 10.15 is used to provide a through portion from Glasgow Central at 1.30 p.m. for attachment at Carstairs to the 12.15 p.m. from Perth to Euston, because of the alteration in the starting time of the southbound "Midday Scot" from 1.30 to 3 p.m.

An observation car is now run on the 7.55 a.m. from

Glasgow (Buchanan Street) to Oban, as between Stirling and Oban, returning as far as Stirling on the 5.15 p.m. from Oban. A similar car is indicated in the timetable as running on the 10.24 a.m. from Fort William to Mallaig, but no return service is shown, nor any use of this car between Glasgow and Fort William, which might have been regarded as an even greater scenic attraction. It is understood that these vehicles are the beaver-tail observation cars built by the L.N.E.R. in 1937 for the "Coronation" streamline trains. Finally, the list of missed connections in Scotland may be completed by the 9.5 a.m. from Inverness to the Kyle of Lochalsh, which starts 2 min. before the advertised arrival of the "Royal Highlander" sleeping car express from London.

The important alterations in and additions to the train service between Glasgow and stations in Fife, transferring these trains at the same time from Queen Street to Buchanan Street Station in Glasgow, as announced in the May 24 issue, were made too late for inclusion in the summer timetable book, and are set out in a special inset that is being circulated with it. An improved service, at hourly intervals, is now provided throughout the day between Corstorphine, Edinburgh Waverley, and North Berwick.

LETTERS TO THE EDITOR

(*The Editor is not responsible for opinions of correspondents*)

Track Loading Fundamentals

July 3

SIR,—I have been studying with considerable interest the articles by Mr. C. W. Clarke under the title "Track Loading Fundamentals," published in your issues of January 11 and 25, February 8 and 22, March 8 and 22, and April 26, but had intended to pass no comment on them. However, the letter from Mr. R. W. Sparrow in your May 17 issue has prompted me to write to you in an endeavour to put the contents of these articles into perspective with the research which we of the Civil Engineering and Research Departments of British Railways have been doing, sometimes with the collaboration of the Department of Scientific and Industrial Research, on the matter of stresses in and below railway tracks. I am concerned mainly with stresses on the formation.

SOUTHERN RAILWAY SOIL MECHANICS RESEARCH

In 1940 I made what I believe to be the first application of soil mechanics to track work in a comparison of measured soil shear strengths and calculated shear stresses below a troublesome main-line track on a clay formation. My calculations were rudimentary, but showed at once the scale of the problem of overstressing of the soil by live loads and the need for a large depth of non-clayey roadbed material below the normal ballast to secure adequately low shear stresses on the underlying soil.

At that time we had no data on the actual loads imposed by chairs on the sleepers nor of the sleeper reactions on the ballast. Not very long afterwards the research on stresses on prestressed concrete sleepers[1] produced results which indicated that, for 95-lb. bull-head track, a reaction of 15 tons on each chair was a fairly frequently occurring value, though there were occasional higher peaks. It was, therefore, decided to adopt this figure for calculations of stresses on the track formations in arriving at the depth of roadbed plus ballast required to effect the desired improvement on the many stretches of troublesome main lines then being tackled immediately after the war. The area of the underside of each end of the sleeper over which this chair reaction was spread was taken as 10 in. wide by 3 ft. 6 in. long, the latter figure being that corresponding with normal fettling practice.

At the same time the live-load shear stress at any depth below the sleeper was recalculated from Boussinesq's equations based on this loaded area and assuming a uniform modulus of elasticity of the ballast and roadbed material. Calculations by the D.S.I.R. for a two-layer system having different moduli of elasticity showed that the stresses calculated for a uniform E would not be very seriously in error for quite a wide variation of E with depth. Therefore, some confidence was felt in applying our method to the calculation of new roadbed depths.

A further point which received early attention on the then Southern Railway was the grading of the non-clayey roadbed material which was to be deposited on the clay formations. Theory indicated, and subsequent experience has proved, that this material should have a grading related approximately to that of the clay by the Terzaghi rules for graded filters, if it was to be successful in preventing upward penetration of clay particles into the roadbed material and subsequent "pumping" troubles.

This research and early development work in 1947 on a prototype pressure cell for measuring static or dynamic pressures in and below roadbeds are described in a paper[2] presented to the Institution of Civil Engineers.

USE OF PRESSURE CELLS

Since that date, further development work has been done jointly by the Southern Region and the British Transport Commission Research Department, with the collaboration of the D.S.I.R., on the manufacture of pressure cells and their use for measuring sub-track stresses but, although very valuable results have already been obtained, as Mr. Sparrow says, much more needs to be done. Nevertheless, it is very encouraging to record that the pressure readings obtained so far are generally in accord with the theoretical values so far used for track "blanket" design. The biggest difficulty encountered in the pressure cell work has been to exclude moisture which can completely wreck the operation of resistance wire and other strain gauges used. Also, it appears relatively useless to bury pressure cells in narrow trenches in existing tracks on account of the long-term compaction and arching of the back-fill, even when well rammed back. To obtain results in which one can have complete confidence the cells must be laid in a new roadbed as it is deposited.

In the laboratory, unique equipment has been constructed to subject samples of oil from track formations, in as near as possible original undisturbed state, to static plus repeated dynamic loading representing the conditions obtaining at any given depth below a railway track.

In the Southern Region apparatus the soil sample is contained in a perspex cylinder with a blanket of the intended roadbed material between it and the loading piston above, and both the soil and the blanket are submerged in water to simulate the worst conditions likely in winter. A paper describing some of this research with the "pulsator" appears in the *Proceedings* of the Fourth International Conference on Soil Mechanics, to be held in London this year.

Complementary research with a larger pulsator of a different pattern has been in progress in another Region. It may be objected that to subject samples of soil to vertical pressure only in a pulsator cylinder does not truly represent the conditions obtaining under a railway track, in which the lateral restraint on the soil subjected to track loading may be different from that in the test cylinedr. This has been appreciated from the outset of this research but, nevertheless, the tests conducted during the last few years with the S.R. pulsator have given results in line with the evidence from the other sources, particularly in regard to breakdown at the clay-blanket interface, resulting in "pumping."

However, arising from a mathematical investigation on

[1] (*a*) "Experiments on Concrete Sleepers." F. G. Thomas. I.C.E. Railway Paper No. 14. (1944); (*b*) "Experiments on Reinforced Concrete Sleepers." F. C. Johansen. I.C.E. Railway Paper No. 13 (1944)

[2] "Remedial Measures for the Improvement of Railway Track Formations." A. H. Toms and W. F. Beatty. I.C.E. Railway Paper No. 37

the S.R. of the fatigue effect of sub-surface shear reversal in rail heads under rolling loads, a complementary research has been commenced into the shear stress fluctuations in the soil below railway tracks at points not necessarily below the sleepers. Apparatus is in course of construction to put this theoretical work to the test.

Behaviour of Roadbeds

Probably the most important research on track roadbeds so far undertaken on the S.R. has been the excavation of trenches through existing tracks to establish the nature and behaviour of the roadbeds and underlying soil, and the behaviour of roadbeds designed in accordance with our present methods. It is very encouraging to find that of the five blankets opened up so far after a life of five years or so the only sign of breakdown is in one where, inadvertently, the blanket depth was less than specified and the base layer of the blanket in contact with the clay was too coarse in grading.

It is impossible in a letter such as this to give anything more than a brief indication of the pioneering work which has been proceeding on British Railways on the matter of soil mechanics as applied to track formation problems. More might have been achieved had it been possible to concentrate on fundamental research to the partial exclusion of day-to-day problems. However, a very great deal of valuable data on the conditions under existing main lines is now available as a result of the day-to-day jobs, and research without this background might have been less effective.

The following are comments prompted by passages in Mr. Clarke's articles:

I note that Fig. 6 (b) of the article published in your issue of February 8, is a repetition of one which has appeared before purporting to show that at a certain depth below the sleepers the vertical pressure on the formation is sensibly uniform and, by inference, that the shear stress is zero. That this is probably a fallacy is readily shown by considering the stresses calculated by Boussinesq's theory for any normal system of axleloads. Even at their closest, the space between axles will be such that at a depth of, say, 3 or 4 ft. below sleeper the effects under the sleepers immediately under the loads will be far more severe than at points midway. Moreover in Fig. 6 (b) the stress gradient in front of the leading or behind the trailing axle is ignored.

British Bridge Stress Committee

I am surprised that no mention has been made of the pioneering work on impact on bridges by the British Bridge Stress Committee though this has no immediate application to the track formation problem under discussion. So far as I am aware, Mr. Clarke is also quite in error in stating that British and American bridges are designed to B.S. 153 of 1925. This B.S. was revised in 1954 and now takes account of the work of the Bridge Stress Commtitee. The Americans use their own loading standards and have of late been doing independent research on dynamic effects.

On the matter of vertical forces exerted by locomotives and rolling stock on the track, I have already referred to the research on the design of prestressed concrete sleepers.

Stresses in Rails

On the matter of stresses in the rails themselves, early research on the S.R. seems to indicate that body stresses in shear or bending are a function of total axleload only and that they are independent of wheel diameter or resilience of suspension. More recently, very high vertical accelerations of motor bogies have been measured on S.R. electric stock but there is considerable doubt as to whether they are, in fact, reflected in correspondingly high shear or bending stresses in the rails. Tests on the S.R. in 1947 with wire resistance strain gauges fixed at various points on the rails including the web within the fishplate area certainly did not reveal any stresses at all corresponding to the very high wheel-to-rail reactions which are implied by these accelerations. One theory is that these accelerations, measured by means of piezo-electric gauges, may be associated with shock waves in the bogie components the amplitudes of which are very small and which are not, therefore, reflected in rail deflections of an order sufficient to register any significant increase in stress over that produced by the total axleload. At any rate, it seems fairly certain that no correspondingly high effective pressures are transmitted by the sleepers to the formation.

In his first article Mr. Clarke gives the impression that by means of a loading plate test one can obtain the modulus-of-subgrade-reaction and from it the safe average bearing pressure of the soil. This is presumably an unintentional error in wording, since these two things have no direct relationship, the former being related to both roadbed elasticity and the loaded area, while the latter is a function of soil shear strength and the shape (not size) of the loaded area.

Safe Bearing Pressure

I am glad that Mr. Sparrow has drawn attention to the fact that the so-called "safe bearing pressure" for various classes of soil can be misleading: the sort of values quoted can but be a very rough guide. I feel that the method which we on B.R. now employ, including the comparison of the shear strength of the soil after years of ageing and fatigue under tracks, or the artificial simulation of these conditions in the laboratory, with the estimated effective dynamic shear stresses on the soil at the same levels, is a far more logical approach.

Mr. Sparrow mentions that soil shear strength may be affected by rate of loading and drainage conditions. We have already proved this to be so and are working on the problem, particularly as it affects the estimation of the stability of clay slopes. Our pulsator is the nearest approach which we have yet succeeded in making to the simulation of the conditions under railway tracks and it does allow for stress variations at something approaching the order of frequency of axle loadings on a track. However, as mentioned earlier, we have yet to explore the effect of varying ranges of dynamic shearing in a machine in process of development.

Behaviour of Clay under Tracks

Some years ago Professor Skempton was associated with us in fundamental research on the behaviour of clay under railway tracks. During this work he showed, for the first time, that, when overconsolidated clays are strained in shear beyond a certain point, the tendency to dilate can cause the development of negative pore-water pressures. This effect, if sustained, could encourage absorption of water and softening. The extent to which this effect can operate under the conditions of rapidly fluctuating shear stress under a railway track is uncertain, but there are good reasons for believing that track roadbeds designed to allow for the full effect of a sustained maximum shear stress would be unnecessarily deep.

Yours faithfully,

A. H. TOMS,
Research Assistant to Chief Civil Engineer
British Railways, Southern Region,
Waterloo Station, S.E.1.

London Midland Region Summer Services

July 3

Sir,—The remarks on page 677 of your issue of June 14 do less than justice to the day trains between Manchester and Glasgow. These are on the average 4 min. faster than they were in December, 1946, and at 38·6 m.p.h. they positively hurtle along in comparison with the seven-day trains between Manchester and Bristol, via the Severn Tunnel, which average 33 m.p.h. An increase in the speed of the latter even to 38·6 m.p.h. would reduce their journey time by nearly an hour, although it would still be 4¼ hr. for a journey of 184 miles.

It would appear, therefore, that there is ample room for spectacular improvements in certain important services without the necessity for spectacular speeds to obtain them.

Yours faithfully,

F. S. EDWARDS
81, Grove Lane, Hale

THE SCRAP HEAP

Rolling Couch

A journey . . . gives an opportunity for psychological investigations. You may have noticed that on a train people let down their defences. The important figure who is arrogant and unapproachable in his office relaxes on a train and reveals amazing sociability; he often manages to climb down off his pedestal and become a man like any other.—*Gianni Barrella in "Italy Tourist Review."*

New Extension

Woman passenger at Charing Cross Underground: "I don't know where I left it. It must have been in the train."

Ticket collector: "Where do you come from?"

Passenger: "South Africa."

Ticket collector: "Oh, no, you couldn't have come by that train."

And then Alice thought she saw a sheep knitting.—*"Peterborough" in "The Daily Telegraph."*

Tube versus Bus

Under the heading "Tube kills Omnibus Service in Five Days," *The Railway Gazette* of July 5, 1907, stated:

"The Hampstead Tube has already entered into effective competition with the older-established transport services of London. On June 28, after the first five working days of the new tube, the omnibus service hitherto operated between High Street, Hampstead, and Oxford Street was withdrawn ofter 70 years' regular operation. This service, which was worked over one of the oldest omnibus routes in London, was started in 1836, although it was not until 1842 that coaches were entirely superseded by omnibuses. Since then, until the advent of the tube, the service has been carried on without a break. It has always been most expensive owing to the steepness of Haverstock Hill."

This bus service was, of course, horse operated, but 50 years later there is still no motorbus traversing the full length of Haverstock Hill, or invading the precincts of Hampstead High Street.

Talyllyn Railway Letter Stamps

Railway letter stamps, each of a face value of 11d., were brought into use by the Talyllyn Railway on May 23. There are six designs, three of which are printed in red and three in green, and

One of a series of six designs of railway letter stamps used by the Talyllyn Railway

a second series is available with the colours reversed, making 12 different stamps in all. The stamp illustrated is printed in green. The new service has proved popular, particularly with members of the Preservation Society, and arrangements are available whereby a letter can be sent to Towyn under cover, with the appropriate fee enclosed. It will then be carried on the Talyllyn Railway and handed over to British Railways as a normal train letter.

Safer by Rail

A Sudan platelayer. . . first called my attention to nests on the middle of a track over which traffic was constant, just outside Khartoum railway station. The nests were built in a scraped depression on the edge of one of the sleepers . . . The platelayer asserted that he often found these nests, and I could only surmise that desert birds of the lark variety had discovered that the rails or the noise of passing trains proved a protection against the attacks of predatory creatures such as snakes and hawks.—*From a letter to "The Times."*

The Loading Gauge

Writers of letters to the daily Press have recently expressed surprise at the transport of heavy loads, and especially railway locomotives, by road. Usually the answer is that such awkward loads are out of gauge, and their movement by rail is either physically impossible, or would result in interference with other traffic out of all proportion to the economic value of the particular movement. Railways in Great Britain still suffer from a restricted structure gauge which in origin was based upon the average dimensions of a farm cart with a load of hay; this was taken as the standard when overbridges were built across highways, as being the largest normal commercial load. Similar dimensions were transferred to early railways (themselves regarded as a species of toll road) and, despite the subsequent adoption of more generous clearances, the vast cost of altering tunnels and other structures to bring British Railways into line with such loading gauges as apply in the U.S.A. and on the principal Continental railways is likely to act as a deterrent to such alterations in the forseeable future. The comparative liberality of the U.S.A. loading gauge is believed to result from absence of overbridges on U.S.A. highways when railways were first built.

Transport of Today

In days of old, when knights were bold,
They hadn't any notion
Of what the future held for man
In terms of locomotion.

Long, long before when off to war,
Wielding Excalibur,
King Arthur pulled no levers, but
Applied a splendid spur.

And, to be sure, in days of yore,
When things got out of course,
Kings weren't the only chaps who cried:
"My kingdom for a horse!"

In days to come, it seems to some,
The march of automation
Will reach the stage when we can do
Without a railway station.

With speed outstripping time and space,
Then look out on the track!
It would be odd, indeed, should we
Meet ourselves coming back.

Hey nonny-no! Things come and go;
Put pride back in the pocket;
To hitch a wagon to a star
Will still require a *Rocket*!

A. B.

"Caledonian" Luggage Label

(*See our June 21 issue*)

The St. Andrew's cross (above) and St. George's cross, in their appropriate colours, featured on the blue-and-white luggage labels provided for passengers in the "Caledonian," between Glasgow Central and Euston

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

WESTERN AUSTRALIA

New Railway Institute at Collie

On March 9, 1957, a new Railway Institute was opened at Collie by Mr. H. C. Strickland, Minister for Railways. Collie, a coal mining town 125 miles from Perth, has a staff of 300 railwaymen. The new Railway Institute building, erected on land fronting Throssel Street, Collie, has been designed to provide for the sporting activities of members by the ultimate provision of a bowling green and tennis court, in addition to the normal recreational and education facilities available at other centres. Provision of parking facilities to the maximum extent available in the area has also been included in the overall proposal. The structure generally is of brick constructions, combining the use of the normal red brick to the damp course level, with cream brickwork above that level.

VICTORIA

Dual Fuel for Diesels

The 50 per cent projected rise in diesel fuel prices has necessitated approval by the Railway Commissioners to the reconversion of a number of steam locomotives from oil- to coal-burning. Also, as a result of a visit by the Deputy Chairman of Commissioners to the U.S.A., where he investigated the dual-fuel system under trial there for the past two years, the Commissioners consider that the economies secured by the system justify its adoption on the Victorian Railways. Only by these changes can a rise of £400,000 in operation costs be averted.

NEW ZEALAND

Cromwell-Dunedin Railcar Derailed

Derailment of the Cromwell-Dunedin railcar on three occasions in April led to temporary suspension of this service from April 27. A bus service operating to a similar timetable was substituted. Each derailment occurred at slow speed while the railcar, one of the Vulcan type built in 1940, was negotiating a difficult section of the line. There was no damage and no one was hurt. On May 3, Mr. J. K. McAlpine, the Minister of Railways, stated that defective sleepers on the sharp curves of the Otago Central railway were responsible for the recent derailments. No diesel locomotives or railcars would be operated on the line until reconditioning, expected to take about three months, was completed.

INDIA

Camping Coaches

Camping coaches are to be provided at a few selected stations for the convenience of railway passengers. The Estimates Committee of Parliament had some time ago recommended that this experiment should be tried out on the models of similar camping coaches provided by the British Railways.

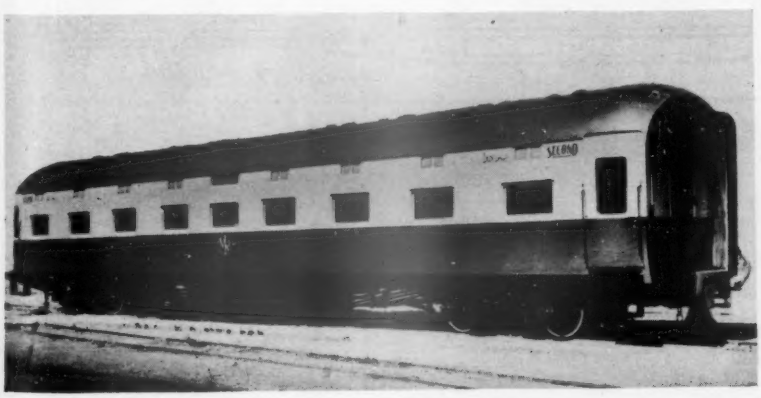
The Railway Board has advised that unserviceable passenger coaches should be used, and these should be specially fitted up. The stations where these camping coaches will be made available will be decided by each railway management, but would preferably be those which do not have retiring rooms.

The internal fittings will be the same as in first class coaches. An attendant will be provided. Generally speaking, the rules in force in the case of retiring rooms would be applicable to camping coaches also. Cooking will not be allowed in the coaches. Nominal charges have been fixed.

MALAYA

Second Class Sleeping Cars

The accompanying illustration shows one of the second class standard type metre-gauge sleeping cars built at the Sentul Shops of the Malayan Railway. A brief description of these cars, with an illustration of the interior, was given on page 334 of our March 22 issue; the other vehicle depicted on that page is a third class brake.



Second class standard-type metre-gauge sleeping car built in the Sentul Shops of the Malayan Railway

CANADA

Diesels on Ontario Northland Railway

The Ontario Northland Railway, which completed conversion to diesel locomotives earlier this year, recently celebrated the official passing of steam locomotives by sending a 56-year-old coal-burning engine on a last symbolic run over the line. The O.N.R., owned by the Government of Ontario, began operations in 1905 on the 114-mile stretch between North Bay and New Liskeard. It now serves the gold towns of Timmins, Kirkland Lake, and Larder Lake. The system now consists of 722 miles of track with 472 miles of main line from North Bay to Timmins and from Porquis Junction through Cochrane to Moosonee on Hudson Bay.

The cost of conversion to diesel traction on the O.N.R. amounted to some $13,000,000. The old locomotives are being sold as scrap except for two reserved as museum pieces.

ARGENTINA

Railway Exhibition in Buenos Ayres

In connection with the Ninth Panamerican Railway Congress to be held in Buenos Ayres in August and September, a railway exhibition will be organised in the New Port, with the participation of several foreign builders and suppliers and of all Argentine firms connected with the railway industry.

Financial Aid from U.S.A.

Mr. Vance Brand, Vice-President of the Export Import Bank, recently paid a second visit to Argentina, during the course of which he stated that U.S.A. credits to Argentina allotted under his direction during the Administration of President Aramburu totalled U.S.$216 million, including $100 million principally for railway equipment.

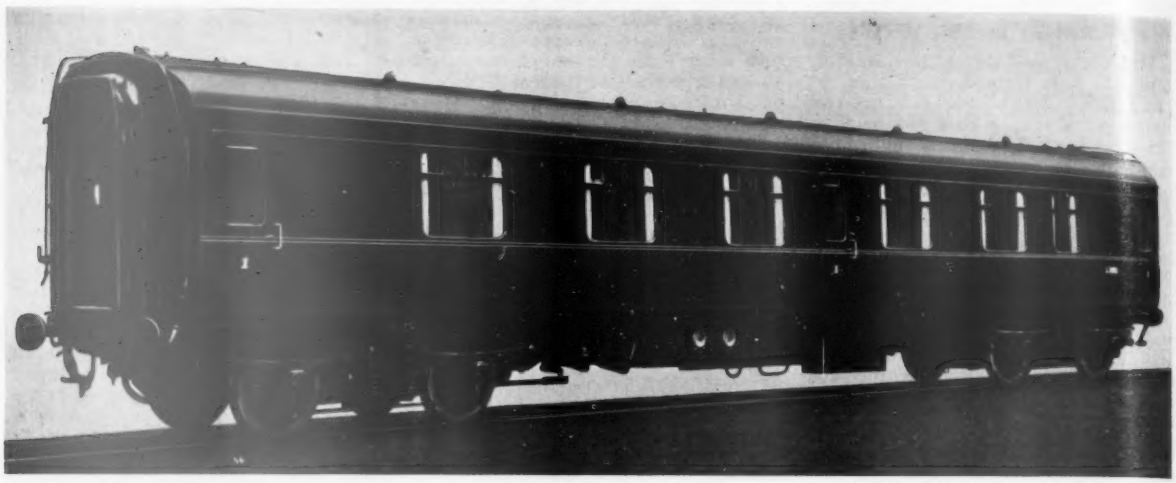
SPAIN

Progress with Zamora-Corunna Line

A further 87-mile section of the new Zamora-Corunna main line, from Puebla de Sanabria to Orense, was opened to passenger traffic on July 2, giving a new route from Madrid to Vigo about 100 miles shorter than the existing main line via Leon. The principal day and night trains from Madrid to Vigo have been diverted to the new route, with a saving in journey time of from 2 to 3 hr. The portions of those trains destined for Corunna are now detached at Orense.

Prototype First Class Open Coach for British Railways

Reclining chairs, and decorative lighting above suspended ceiling



First class prototype open saloon, built by Birmingham Carriage & Wagon Co. Ltd., showing redesigned numerals

THE first class prototype open saloon, constructed by the Birmingham Carriage & Wagon Co. Ltd., which formed one of the items seen at the Modern Railway Travel Exhibition held at Battersea recently, is built to British Railways basic dimensions of 64 ft. 6 in. over body end framing and 9 ft. maximum width. The bogies, underframe, and shell are to British Railways standard design and requirements. The service weight of the coach is in the order of some 35 tons.

It was left to contractors to determine the optimum condition between an economic number of passengers to be carried and increased comfort per passenger; complete freedom was also given in producing a design on modern lines embodying a décor attractive and pleasing, and features providing additional comfort for passengers.

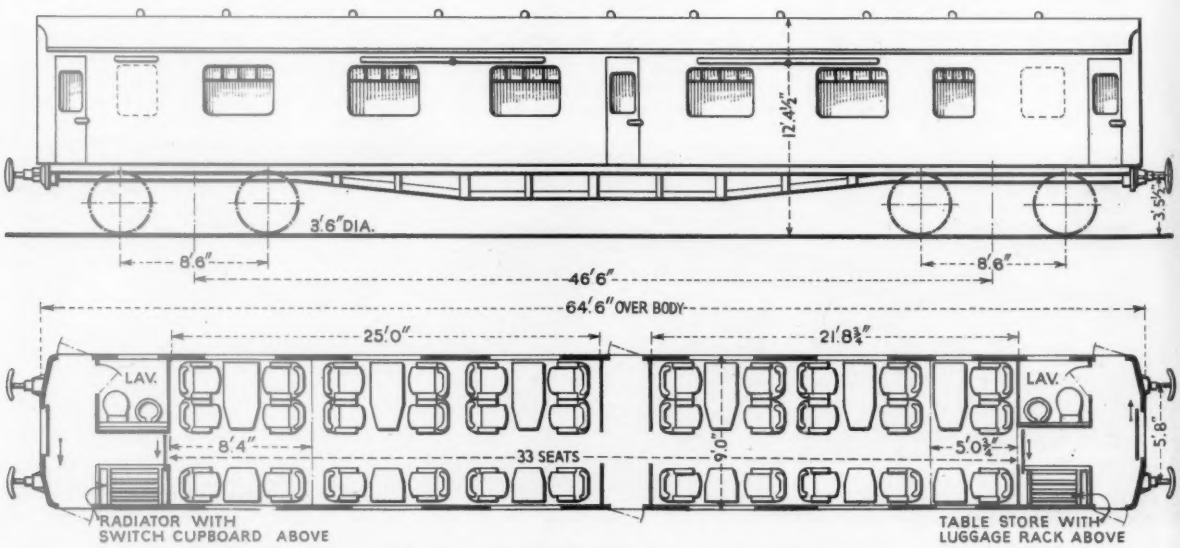
Layout

The coach retains the standard arrangement of two saloons divided by a central gangway with doors to the outside and a vestibule and lavatory at each end. The seat spacing has been opened out to give increased passenger comfort and more leg room; the coach has accommodation for a total of 33.

Readily detachable tables are provided; storage space is provided at the ends of the coaches opposite the lavatory compartments, also furnishing passengers' luggage accommodation.

The shell of the vehicle is sprayed internally with Limpet asbestos to give quiet running and increased insulation properties. Double-glazed window units are incorporated for the same purpose and also to avoid condensation.

Wood veneers are used for the interior finish of the passenger saloons, it being felt that none of the recently developed wall finishes could compete with the good appearance of natural wood even under harsh wear. It is also felt that the natural wood veneer has a more general appeal in the variable English climate than other alternative types. The finish chosen is Australian walnut, arranged flush with mouldings reduced to the minimum. The end partitions are vertically ribbed,



Elevation and plan of coach, showing principal dimensions and layout

contrasting with the bodyside finish. The seating is arranged as individual reclining winged armchairs of comfortable proportions with foam rubber upholstery. At the touch of a button situated in one of the arms the passenger may recline his seat back as an alternative to the more upright position intended for use whilst dining. A linen-covered feather-soft pillow attached to adjustable straps is provided for the passenger to position to his own requirements. The seat is finished in specially woven blue material which offsets the satin matt chromium plating of the tapered chair legs and other metallic fittings. Concealed ashtrays are fitted in the arms.

Heating Arrangements

Continuous steam heating is provided along both sides of the saloons covered with a new pattern of decorative grilles. The vestibules and lavatories are also heated. Electric heating may be incorporated within the same structural arrangements.

The lavatories have been completely redesigned, as have all the fittings used, the aim being to provide every amenity in such a way that untidiness through use would be minimised and maintenance simplified. This compartment is finished predominantly in black and white in laminated plastic with butt joints and the junction with the Thermo-plastic tiled floor made with a cove. A partially recessed panel picked out in the colour scheme contains a concealed fluorescent light, mirror, a combined interleaved towel dispenser and trigger-operated ashtrays, Lotus washbasin and soiled towel rack. The washbasin is fitted with a Unatap with a spray nozzle. This combined tap, mixing hot and cold in adjustable proportions, provides maximum economy in use of water.

The vestibules are finished in light mahogany in accordance with standard practice and the centre gangways are finished to match the saloon interiors.

A map of railways in the British Isles is affixed in the centre gangway.

It was felt that the ideal form of illumination was subdued general lighting with individually controlled spotlights to provide a high intensity of light for reading. The general lighting comprises continuous indirect fluorescent tubes housed behind a suspended ceiling which incorporates a pattern of decorative light piercings giving sparkle and richness to the scheme. Separate incandescent reading spotlights for each passenger are housed in the parcel rack brackets and controlled by independent switches mounted in the aluminium sills. On one end partition only bracket reading lights are fitted with perforated decorative shades. Incandescent ceiling light fittings of Mondolite type are arranged in the vestibules, lavatories and centre gangways.

The luggage racks are generally of tubular construction on the lines of existing British Railways racks, and finished anodised aluminium. The racks incorporate cast aluminium brackets forming housings for the spotlights.

Roof ventilation is carried out with extractors of British Railways pattern drawing air through the continuous series of slots in the centre ceiling. These slots are arranged in pattern with the decorative piercings. Sliding ventilators of Beclawat type are also arranged over bodyside lights.

Décor

Curtains are fitted to the saloon bodyside windows moving on a concealed top curtain track above the window, the side panelling is recessed so that the curtains can be tucked tidily away without obstructing the view, and are controlled at the bottom on rails incorporated in the slotted aluminium sills. These sills form a feature of the interior finish and are of anodised aluminium arranged to incorporate switches, bell pushes, table anchorage and ashtrays. The ashtrays are of a special spring-controlled push-in type.

The tables are also of Australian walnut and basically retain standard shape. The lipping detail has been redesigned and is provided with a satin chromium plate for protection when clamped in the table storage. The table itself, covered with black Vynide, has a detachable anchorage to the bodyside and a tapered tubular steel leg matching the tubular legs of the seating.

The floors of the saloons are covered with a close-fitted carpet and decorative plastic tiling is arranged in lavatories, vestibules and the centre gangway.

Exterior Finish

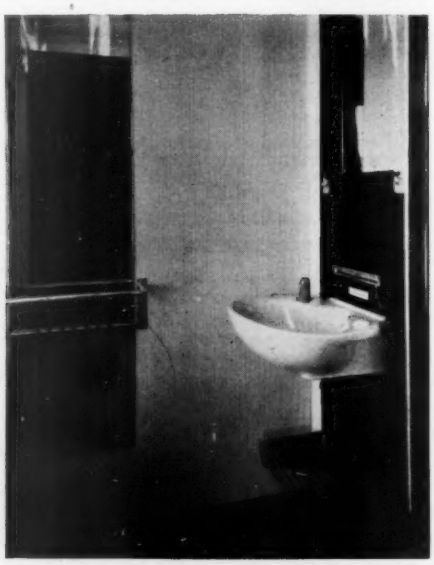
The exterior of the coach is painted in British Railways standard livery. The door numerals, however, have been re-designed, and also the numerals for the carriage numbering. The window label "First" is redesigned and a new type of "No Smoking" label is exhibited. The proportions of the bodyside windows have been amended from the standard British Railways design used for this type of vehicle.

The interior arrangement and décor were designed by Sir Hugh Casson.

Principal sub-contractors were :—

Beckett, Laycock & Watkinson Limited	Bodyside double-glazed windows
Pel Limited	Reclining armchairs
Adamsez Limited	Washbasins
J. Stone & Co. (Deptford) Ltd.	Fluorescent and spot lighting equipment
Armstrong Cork Co. Ltd. ..	Floor tiling
Walker, Crosweller Limited ..	Unatap spray mixing tap
J. W. Roberts Limited ..	Asbestos insulation
Troughton & Young (Lighting) Limited	Ceiling fittings and Mondolite
Cresco Limited	Interleaved towels

Reclining seats with adjustable pillows, and suspended ceiling concealing fluorescent tubes for general lighting



Toilet, showing washbasin and full-length wall-mounted mirror

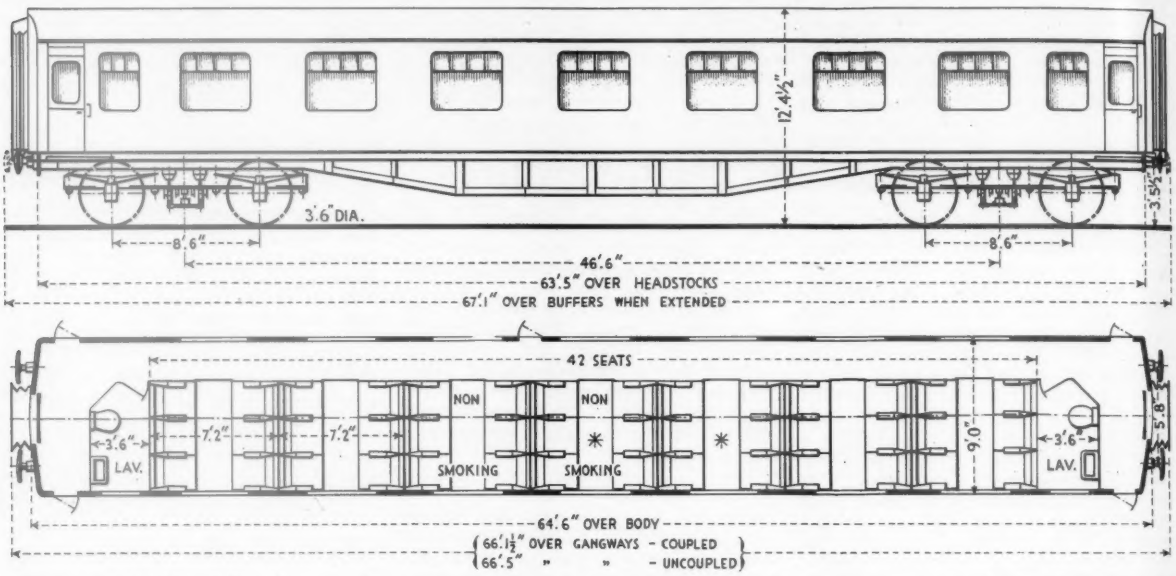
First and Second Class Side-Corridor Coaches

Induced ventilation and automatic temperature control in British Railways prototype vehicles

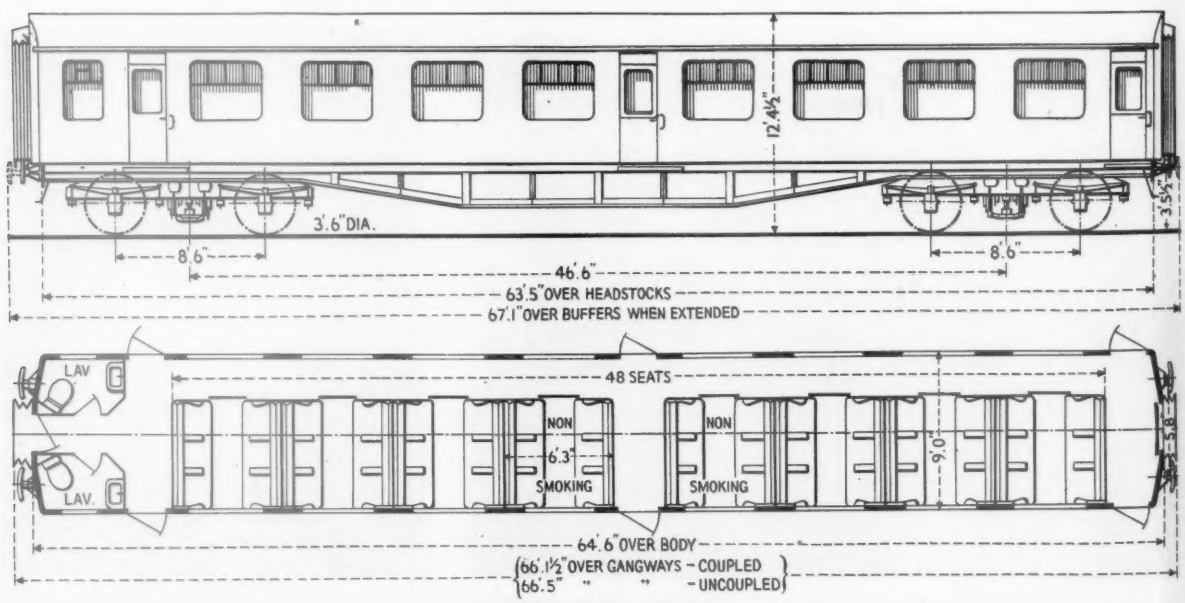
AMONG the coaches on show at the British Railways Railway Travel Exhibition at Battersea Wharf Goods Depot on June 28-30 were two prototype coaches by the Gloucester Railway Carriage & Wagon Co. Ltd. These have been produced in accordance with a recent decision to allow certain builders to manufacture prototype rolling stock to their own designs, provided that the basic dimensions conform to British Railways standard practice. In accordance with this requirement, all basic dimensions of the two Gloucester Railway Carriage & Wagon Co. Ltd. prototypes, including sizes of compartments, lavatories, and corridors, are to British Transport Commission standards. The bodies of both first and second class coaches are built on standard British Railways underframes, which in turn are carried on standard main-line bogies.

In the first class coach, seven compartments are provided seating 42 passengers. A lavatory is provided at each end of the coach.

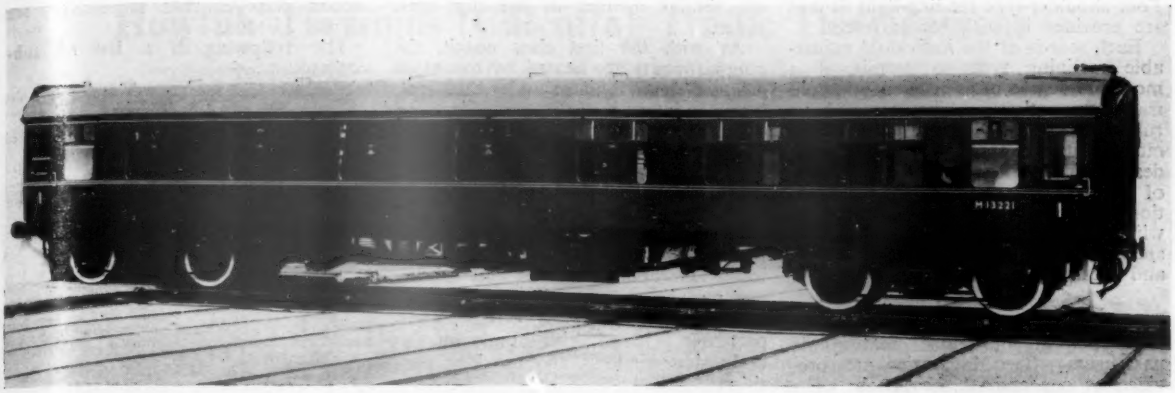
The interior finish has been designed with a view to easy cleaning and maintenance. Plastic veneered hardboards have been used throughout for walls and ceilings, the colours being kept to pleasing pastel shades. Exposed timber



Elevation and plan of first class coach. Automatic temperature control is fitted in compartments marked with an asterisk



Details of second class coach, showing layout of the eight compartments



First class prototype coach built by Gloucester Railway Carriage & Wagon Co. Ltd. for British Railways

finish has been kept to a minimum and is in matt polished beech. A silver anodised aluminium moulding accents the cornice line and is balanced with a 4-in. high bright aluminium kicking strip at floor level.

Incorporated in the plastic panels over the seats, to enhance the appearance, are reproductions of old woodcuts depicting wild life scenes and common birds of the British Isles.

The undersides of the roof sheets and floors are sprayed with "Limpet" asbestos and the body sides are filled with Fibreglass insulation to reduce noise and to insulate the car from extremes of temperature.

Heating and Ventilation

The compartments are heated by means of a finned steam radiator under each seat, the efficiency of which as a space warmer is improved by the introduction of a ram intake scoop system of induced fresh-air ventilation. This is under the control of the passenger, by means of a knob fitted on the body side quarter adjacent to the steam heater control. The ram intake scoops are located on the body side below the seats, and the grilled inlets of the scoops can be clearly seen from outside the car at floor level.

Automatic Temperature Control

In addition to this ventilating system one smoking compartment and one non-smoking compartment in the car are fitted with automatic temperature control under the operation of a bi-metallic valve actuating a diaphragm under pressure differential.

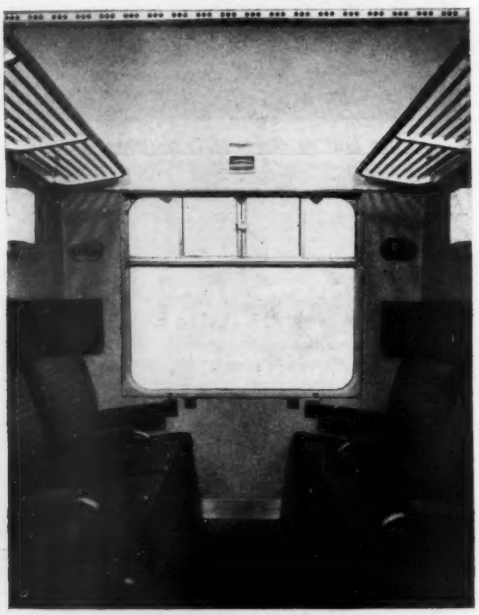
The air entering the compartment under automatic control is ducted to the body side below the window via either of two channels, the one passing the air over a heat exchanger instead of the usual two finned steam radiators, and the other by-passing the heat exchanger, the choice being made by a flap in the ducting under automatic temperature control. Passengers can also vary the temperature in the compartment by means of the regulator below the mirror on the partition.

Demisting Arrangements

The system incorporates a window demisting arrangement automatically controlled in the same manner as the main system. The air to this device is bled from the main trunking and is ducted to the body side below the window, rising under pressure from the ram system over the window to demist the glass.

The main lighting in the compartments is provided by a centrally-placed overhead fitting, incorporating a 60-W. lamp behind a prismatic intensive bowl with a 15-W. lamp as a nightlight controlled by a switch over the door.

Compartment in first class coach, showing individual adjustable reclining seats, ventilation and heater controls, and plastic facings



Bench-type seats in second class compartment with roof air extractor channels above

Four shoulder-type reading-light fittings are provided in each compartment.

Each seat is of the individual adjustable reclining type to permit of a moderate degree of adjustment to avoid travelling fatigue. The seats have rubber-filled loose cushions and are of modern styling covered with specially designed moquette. Luggage racks are of square tubular aluminium construction, anodised satin silver finish. The windows are fitted with curtains of specially woven material which are dirt- and crease-resisting.

Second Class Coach

In the second class coach, eight compartments are provided seating 48 passengers. Two lavatories are provided at one end of the coach. The general interior finish and the insulation are similar to that of the first class coach.

As with the first class coach, the compartments are heated by means of a finned steam radiator under each seat. The ram intake scoop system of induced fresh air ventilation, under the control of the passenger, is also provided. Lighting arrangements and the luggage racks are also similar to those of the first class coach. The seats are of bench type, normally seating three passengers on each side, fitted with loose Dunlopillo cushions and folding arm rests in modern styling and covered with special moquettes. Each compartment is fitted with blinds on the body side windows and corridor partitions.

The tare weights of the first and second class coaches respectively are 36 and 35 tons.

The following is a list of sub-contractors:—

Interior plastic finish and colour schemes	Thomas de la Rue & Co. Ltd.
Fabricating plastic panels	Insulation Equipment Limited
Roof ventilators and air inducers	Greenwood & Airvac Limited
Automatic temperature control units	Gloster Aircraft Co. Ltd.
First class reclining seat mechanisms	A. W. Chapman Limited
Seating and first class carpets	T. F. Firth & Co. Ltd.
Curtain material ..	Courtaulds Limited
Spring fillings for seats ..	Lace Web Spring Co. Ltd.
Seat cushions	Dunlop Rubber Co. Ltd.
Parcel racks	Deans & Sons (Yorkshire) Ltd.
Floor coverings ..	Linoleum Mfg. Co. Ltd.
Electric light fittings ..	J. Stone & Co. (Deptford) Ltd.
Electric light fittings ..	B.M.A.C. Limited
Sprayed Limpet asbestos	J. W. Roberts Limited
Fibreglass insulation ..	W. Gilmour Smith & Co. Ltd.

Rebuilt Danish Suburban Station

All station offices at island platform level

Main hall at Sorgenfri, showing booking windows recessed in echelon

As a result of the recent construction of a new main road crossing the Copenhagen-Holte suburban electric line of the Danish State Railways at the north end of Sorgenfri Station on an overbridge, that station has now been rebuilt. Previously the station entrance was at the south end but its island platform is now approached from the bridge.

Unlike British practice, but conforming to that on the Danish suburban lines, there is no booking office at highway level, but instead a two-lane staircase descends directly from road to platform level.

At the foot of the staircase a covered corridor or hall about 100 ft. long and 14 ft. wide is entered, along one side of which are ranged a bookstall, kiosk, booking offices, waiting rooms, and the usual offices and conveniences. The back wall of these offices faces one of the tracks and the other is screened from the corridor by a glazed partition wall.

Recessed Booking Windows

To avoid interference with passengers going along the corridor directly to or from trains, the booking-office windows are recessed in echelon and facing at about 50 deg. to the corridor. Near the far end of the corridor is a ticket barrier, and beyond that the corridor opens out on to the near end of the island platform.

The railway tracks were lowered by about 5 ft. and the new station was built to suit that level, so as to avoid throwing up approach embankments to carry the new road up to the level of the overbridge.

Near the new station entrance from the road, car, taxi, and bicycle parking spaces have been provided. Opposite the entrance a new shopping centre has been built, and beyond that three 15-storey blocks of flats are being erected, all these developments justifying the removal of the station entrance from the south end to its present position at the north.

TALYLLYN RAILWAY PHOTOGRAPHIC COMPETITION.—The Talyllyn Railway Photographic Competition is being held again this year and a prize of two guineas is offered in each of three classes. These are: (a) black and white print by a member of the Preservation Society, (b) black and white print by a non-member, and (c) colour transparency, open to all. Photographs must have been taken during the 1957 season and unusual scenes will stand the best chance, although good sharp prints of any scenes will be welcome. It is a condition that any photograph awarded a prize may be used for publicity purposes and in that case the copyright is retained by the company. Entry forms may be obtained at the Wharf station or from Mr. R. K. Cope, Brynglas, Beckman Road, Pedmore, Stourbridge, Worcs, to whom entries should be sent to arrive not later than November 30.

COMPENSATION FOR IRISH RAILWAY EMPLOYEES.—Speaking in the Northern Ireland Parliament recently, Lord Glentoran, Minister of Commerce, said that regulations to deal with compensation for redundant G.N.R. workers would not apply to employees of the Sligo, Leitrim & Northern Counties Railway, which was a separate concern owned by a private company. Mr. West (Enniskillen—U.) urged that the S.L. & N.C. employees should be given consideration, as their position arose from the mis-management of public transport in Northern Ireland, a situation from which the Government could not entirely divorce itself. Lord Glentoran said he could not accept the suggestion that the Government was in any way responsible for the S.L. & N.C. line. At one time the Government had granted it a subsidy, but that had been withdrawn from the railway some years ago.

Howrah Terminus (Calcutta) Traffic Development

Increasing passenger traffic; plans for electric services

The main passenger station facade facing the Hughli River with the approach in the foreground and part of the road bridge

SOME 103 years ago the second railway to be opened in India, 40 miles long, had its Calcutta terminus at Howrah, across the River Hughli (now known as the Bhagirathi) from the city. This was the origin of the East Indian Railway and the small structure then adequate was replaced in 1901 by the present 13-platform terminus serving the South Eastern—the former Bengal-Nagpur—as well as the Eastern Railway, successor of the East Indian.

The passenger terminus, though not attractive architecturally as some other stations in Bombay and elsewhere in India, is a massive brick structure of no mean appearance and in area is the largest station in the country. Of the 211 trains it handles, 105 are departures and 106 are arrivals, mail, express, passenger and local. They convey on an average 30,000 main line long-distance and 120,000 local passengers daily.

The Eastern Railway traffic flows by way of three main routes to northern and north-central India, (1) the Loop Line also leading to Manihari Ghat and Assam via the new link; (2) the main or original Chord line via Patna; and (3) the Grand Chord direct route. The main trunk lines onwards lead to Delhi and to Bombay via Jubbulpore and the whole of northern and north-western India. The South Eastern Railway's trains run to Bombay via Nagpur and Madras. Both these railways serve the great Indian coalfields areas.

The station has a large concourse flanked on each side by the usual offices, waiting and refreshment rooms. The booking offices, which are open from 4.15 a.m. to 11 p.m., issue daily 25,000 tickets in addition to the monthly seasons, and tickets issued at the seven City booking offices. There are 30 third class and 7 upper class booking counters, and separate counters are provided for season-ticketholders and railway employees. Other counters issue upper and third class platform tickets numbering some 11,000 on an average day. A distinct system of sectionwise counters expedite booking and, moreover, each of three electric automatic ticket-printing and issuing machines issues no fewer than 30 suburban tickets a minute, and two others issue platform tickets.

About 2,500 packages of passengers' luggage are handled daily at seven counters. The booking and delivery of parcels take place at separate sheds where 16,500 inwards packages are received and 14,000 dispatched daily. The passenger station is now illuminated by 235 electric fluorescent tubes each of 80 W.

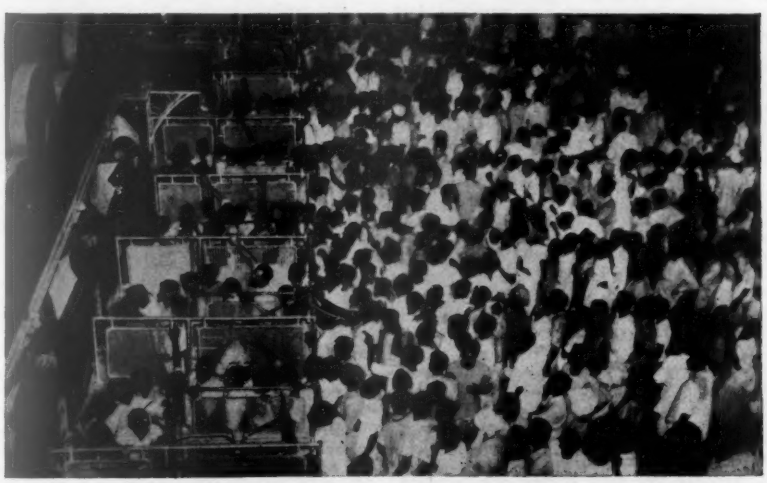
Passenger Amenities

The many and various types of passenger using this station demand many different kinds of amenities. They include retiring or rest rooms, and separate waiting rooms for "air-conditioned," first and second class, and for women passengers, besides a spacious third class waiting hall.

There are refreshment rooms, snack bars, a "coffee corner" and food trolleys to suit the different types of passenger. There are also an enquiry office, bookstalls, flower and fruit stalls, a stationery shop, hair-dressing saloon and sub-post office. The arrival and departure of each train is announced through a public address system, and passenger guides are provided to assist travellers. Altogether, the Station Superintendent has under him a staff of some 5,000 employees including over 1,200 licensed porters.

Howrah Goods

At Howrah there is also the largest goods depot in India. It has 17 sheds, seven open yards, and two jetty points



Holiday crowds invading the booking counters. Note the tubular steel partitions separating the queues for adjacent counters

The "coffee corner," in western fashion, with fluorescent lighting and both ceiling and oscillating ventilating fans

for riverine traffic. Machinery, heavy consignments of all kinds, mineral and vehicular traffic are dealt with at the inwards and outwards open yards, largely by mobile crane. The inwards goods sheds cover an area of 244,000 sq. ft. and the outwards sheds 184,000 sq. ft.; they provide storage for 8,000 and 3,600 tons of goods respectively. The average numbers of wagons handled daily are 142 outwards and 184 inwards. In 1956 the total earnings from goods traffic at Howrah was £4,822,500.

Signalling and Control

Traffic in and out of Howrah is regulated by a Control Office and a single signalbox. In 1906 electro-pneumatic power signalling was installed, but in 1936 it was replaced by a more modern power plant. This has an illuminated diagram showing the whole area, and the positions of the points and signals and the occupancy of the tracks. Some 500 engines and trains, 120 empty-stock rakes, and 1,000 shunting movements are handled daily.

Remodelling and Electrification Plans

Work is now well advanced upon the electrification of some 262 track-miles based on Howrah, and electric services are expected to be running by the end of 1957. At Howrah itself several remodelling works are being carried out in connection with the electrification. In addition to necessary yards and car sheds for multiple-unit stock and electric locomotives, a fly-over is being constructed for goods traffic into Howrah Goods. To make room for the new electric stock yards, the existing coaching yard is being moved to Tikiapara. An additional platform is to be provided and the movement of the coaching yard will enable existing platforms to be extended to accommodate 15-coach trains. Moreover, a widening scheme to provide an additional track from Howrah to Lillooah, is included in the projects largely to be undertaken under the current Five Year Plan.

Road Approaches

Outside the station another scheme is being examined with a view to relieving congestion of heavy vehicular road traffic. It takes the form of a new high-level road in front of the station along which the heavy traffic to the goods and parcel sheds can be diverted, segregating it from the passenger road traffic. This diverted traffic will flow out via Buckland Bridge, which is to be widened and strengthened. The parcels area is also to be extended and improved.

Howrah is the subject of an editorial on another page, and with the article describing Calcutta's other terminus, Sealdah, we published on February 15 last a map showing both termini.

Howrah station from the carriage sidings, showing the umbrella roofing of 10 of the platforms and Howrah cantilever road bridge in the background

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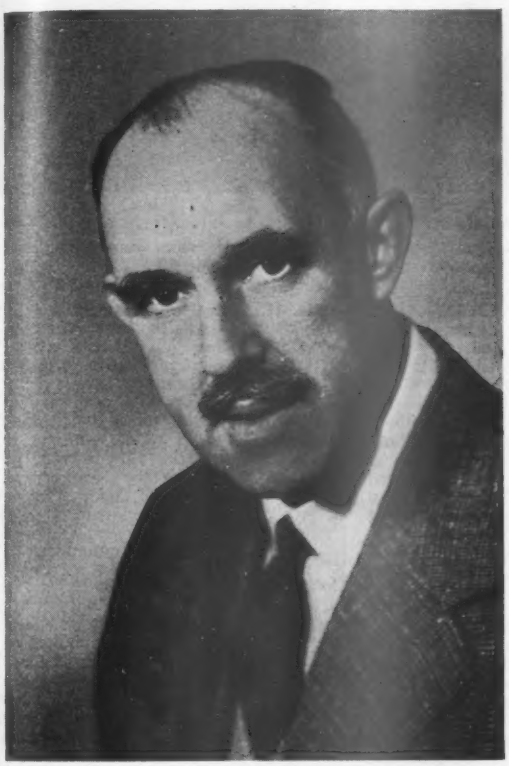
WORKSHOP MODERNISATION AT BARROW.—Work has begun on a £43,000 modernisation scheme at the Barrow workshops of the District Engineer, British Railways, London Midland Region, which, when completed at the end of the year will provide up-to-date facilities for dealing with the railway modernisation programme. The workshops, which are about a mile from Barrow Central station, were originally the paint shops of the Furness Railway. It is proposed to concentrate the whole of the District Engineer's workshop activities in this building. It will be adapted to accommodate stores, joiners', plumbers', and fitters' shops, a smithy, office, and staff amenities. Modern machinery, including two circular saws, a cross-cut and a band saw, machines for planing, morticing, and gulleting and a grindstone are to be installed. The roof of the workshop has been reglazed and various alterations have been made to the walls. The workshop modernisation scheme includes the provision of an office at Barrow Central station for the District Engineer's inspectors.

RAILWAY NEWS SECTION

PERSONAL

Mr. Alfred Richardson, Deputy Public Relations Adviser to the Prime Minister, has been appointed Chief Information Officer, Ministry of Labour & National Service in succession to Mr. Lex Hornsby.

Mr. C. G. Harrison, A.M.I.Mech.E., M.I.Loco.E., A.M.I.I.A., General Manager, Malayan Railway, who, as recorded in our June 21 issue, has been awarded a C.B.E. in the Birthday Honours List, was educated at St. Patrick's Cathedral School, Dublin, and matriculated at London University, where he studied engineering externally. He began his railway career as pupil engineer to Mr. W. H. Morton, M.I.Mech.E., Chief Mechanical Engineer, Great Southern Railways, Ireland, and was later appointed successively Carriage & Wagon Assistant and Assistant Works Manager at Inchicore Works. He was a member of a number of railway technical commissions and was Vice-President of the Engineering and Scientific Association of Ireland. Mr. Harrison joined the Colonial Engineering Service in 1938, being appointed Assistant Chief Mechanical Engineer, Federated Malay States Railways. Interned in Sumatra by the Japanese he administered a large internee hospital as Lay Superintendent. He was appointed a Member of the Malayan Government's Joint Wages Commission in 1947, receiving the special thanks of the Government for his contribution to its work. In 1949-50 he officiated as Deputy General Manager, Malayan Railway, and, in 1951, as Locomotive Running Superintendent. On being appointed Chief Mechanical Engineer in 1952 he reorganised the Mechanical Engineering Department to incorporate Locomotive Operating. He was appointed Deputy General Manager in January, 1954, and, later that year, General Manager. Also in the same year he acted for a brief period as member for Transport in the Government of the Federation of Malaya and a Member of the Executive and Legislative Councils.



Mr. C. G. Harrison
General Manager, Malayan Railway, who has been awarded the C.B.E.

Mr. M. J. Chughtai
Appointed General Manager of the North Western Railway, Pakistan

Mr. M. J. Chughtai, who, as recorded in our May 17 issue, has been appointed General Manager of the North Western Railway of Pakistan, was born at Lahore on January 27, 1904, and educated at Government College, Lahore, where he obtained honours in physics. He subsequently gained first-class honours in engineering and the Diploma in Engineering at London University. Mr. Chughtai served his apprenticeship on the Southern Area of the London & North Eastern Railway and, on completion of his training in 1926, was appointed Assistant Executive Engineer, I.R.S.E., and posted to the East Indian Railway. In 1941 he became an Executive Engineer, having previously served as Divisional Personnel Officer. In 1945 he was appointed Secretary to the General Manager, East Indian Railway, and, the following year, was made an M.B.E. for services in connection with the planning and construction of ordnance depot sidings and the re-modelling of stations on the East Indian Railway. In June of that year he was appointed Joint Director, Establishment, Railway Board of India, and also officiated for some time as Director of Establishment. On partition he became Director of Establishment in the Railway Division, Ministry of Communications, Karachi, and also officiated as Director General, Railways, from May to July, 1948. In 1949 Mr. Chughtai became Chief Engineer, North Western Railway. In 1952 he was appointed General Manager of the North Western Railway, Pakistan, leaving this position to become General Manager of the Eastern Bengal Railway in 1954.

Mr. E. Webster, B.Sc.(Eng.) (Hons.), A.M.I.E.E., Development Engineer in the Development Division of the department of the Chief Mechanical Engineer (Railways), London Transport Executive, has been appointed Principal Development Assistant. He will report to the Assistant Mechanical Engineer (Development) Railways. Mr. Webster, who is 49, entered the service of the L.P.T.B. in October, 1938, as a technical assistant with special knowledge of traction motor design and construction. He was appointed Development Engineer in 1951. He was previously employed by the Metropolitan-Vickers Electrical Co. Ltd., at Manchester and Sheffield from 1929 until 1938.

Mr. B. X. Jessop

Appointed Assistant Traffic Adviser (Passenger), British Transport Commission

Mr. G. F. Huskisson

Appointed Traffic Manager, Kings Cross, Eastern Region

Mr. H. Scully

Appointed Publicity Assistant, Western Region

Mr. B. X. Jessop, E.R.D., M.A., M.Inst.T., Acting Commercial Manager, Liverpool Street, Eastern Region, British Railways, who, as recorded in our June 28 issue, has been appointed Assistant Traffic Adviser (Passenger) at the British Transport Commission's Headquarters in London, was educated at St. Bees and Clare College, Cambridge. He began his railway career with the L.N.E.R. as a Traffic Apprentice in 1927, and, after gaining experience in the Commercial and Operating Departments, was appointed Assistant to the District Goods Manager, Leeds, in 1933. He subsequently became Chief Clerk, and, later, Assistant to the District Passenger Manager, Newcastle, Assistant District Goods Manager, Leeds, in 1937, and District Passenger Manager, Leeds, in 1939. As a member of the Royal Engineers (Supplementary Reserve) he held wartime appointments in the Movements Directorate in France, the United Kingdom, and as Deputy Director of Movements, G.H.Q., India. He was mentioned in despatches and was demobilised with the rank of Colonel. During the war Mr. Jessop was appointed District Superintendent, Sunderland, and became Assistant Passenger Manager, North Eastern Area, L.N.E.R., in 1945; Assistant Goods Manager, North Eastern Area, in 1946; Assistant Chief Regional Officer, North Eastern Region, in 1948; Assistant Commercial Superintendent, Eastern Region, in 1954, and Acting Commercial Manager, Eastern Region, the position he now vacates, in 1956.

Mr. G. F. Noakes has been appointed Principal Stores Assistant, London Transport Executives. He will be responsible to the Supplies Officer for the control of the stores organisation. Mr. Noakes, who is 49, joined the London General Omnibus Co. Ltd., 35 years ago. During the course of his career he has had experience in all branches of supplies work, and more recently has been in charge of the Central Office, dealing with stock control and accounting. He has also acted as Deputy to the Supplies Officer.

Mr. V. S. Ghersie, East African Railways & Harbours, has been elected an Associate Member of the Institution of Civil Engineers.

Mr. G. F. Huskisson, E.R.D., Acting District Passenger Manager, Liverpool Street, Eastern Region, British Railways, who, as recorded in our March 8 issue, has been appointed Traffic Manager, Kings Cross, was educated at Merchant Taylor's School. He entered the service of the London & North Eastern Railway as a clerk at Loughton in September, 1934, and after serving at various suburban stations, was transferred to the Passenger Manager's Office, Liverpool Street, in November, 1936. He remained there until September, 1937, when he was appointed to a position in the Chief General Manager's Office, L.N.E.R., Kings Cross, which he held until appointed as a Traffic Apprentice in July, 1938. He served with H.M. Forces in the Royal Engineers (Transportation) from September, 1939, until April, 1946, and attained the rank of Lieutenant-Colonel. He was mentioned in despatches for service in Burma, where he commanded No. 1 Railway Operating Group, Indian Engineers. Mr. Huskisson resumed duty in May, 1946, as Deputy Head of the Development & Canvassing Section, Passenger Manager's Office, Liverpool Street, becoming head of the section in March, 1947. He was appointed Head of the Development & Statistical (Passenger) Section, Commercial Superintendent's Office, Liverpool Street, in April, 1949. In June, 1951, Mr. Huskisson was appointed Assistant District Goods Superintendent (London Suburban), Gordon Hill, and, in July, 1953, became Assistant Commercial Superintendent (Development), Liverpool Street. He subsequently became Temporary Productivity Assistant to Commercial Manager, Eastern Region, and was appointed District Commercial Manager, Peterborough, in August, 1955, and Acting District Passenger Manager, Liverpool Street, in July, 1956. After the war, Mr. Huskisson commanded a Railway Traffic Squadron, Royal Engineers, Army Supplementary Reserve. He was a member of a British Railways Mission which visited Ceylon from August to October, 1955.

Associated British Engineering announces that Mr. Alexander Belch has been appointed to the boards of that company's subsidiaries, H. Widdop & Co. Ltd., and the Free Piston Engine Co. Ltd.

Mr. H. Scully, who, as recorded in our June 28 issue, has been appointed Publicity Assistant to the Public Relations & Publicity Officer, Western Region, British Railways, began his railway career with the Lancashire & Yorkshire Railway in the Secretary's Office at Hunt's Bank, Manchester, in 1912. After service with the Royal Engineers during the 1914-18 war, he returned to the Secretary's Office and, in 1922, transferred to the Office of the Divisional Commercial Superintendent at Manchester. In 1929 Mr. Scully moved to London to take up an appointment in the Road Transport Department of the Chief Commercial Manager's Office in which capacity he was concerned with L.M.S.R. interests in the passenger road transport industry. In 1947, he was appointed to the Trade Advertising Department of the London Midland Region and, when on nationalisation the Trade Advertising and Advertising Departments were merged, he became Assistant (Outdoor) to the Public Relations & Publicity Officer, London Midland Region, the position he now vacates.

We regret to record the death, at the age of 84, of Lord Riverdale, G.B.E., LL.D. The Rt. Hon. Arthur Balfour, first Baron Riverdale, of Sheffield, and first baronet, was educated at Ashville College, Harrogate. He began his career as an office boy in Sheffield, and after four years went to the United States, where he obtained his early business training. In 1911, when managing director of Seebohm & Deckstahls Steel Works, he was elected Master Cutler. In 1913 he was appointed a member of the Royal Commission on Railways, the first of his many public services. In 1919 he was elected president of the Sheffield Chamber of Commerce, and four years later of the Association of British Chambers of Commerce. In 1924 he was appointed chairman of the Government Committee on Industry & Trade. Lord Riverdale was chairman of Arthur Balfour & Co. Ltd., of Sheffield.

Mr. Victor H. F. Hopkins has been appointed Manager of Engineering, with headquarters at Brownsover Hall, Rugby, of the English Electric Co. Ltd. Mr. Hopkins will be responsible for all technical departments concerned with the design,

development, production, and operation of the company's diesel engines.

Crossley-Premier Engines Limited announces that Mr. A. Cyril Yeates has retired from the company and has resigned as Managing Director while remaining on the board. Mr. W. George Pinder, Director & Chief Engineer, has been appointed Managing Director of the company.

Babcock & Wilcox Limited announces that Mr. Iain Maxwell Stewart and Lord Bridges have been appointed to the board of that company.

Mr. W. I. Kirshner, who, as recorded in our July 5 issue, has been appointed Divisional Engineer (Country Buses & Coaches), L.T.E., is 60 years old. He entered the service of West London Coaches in 1925 and was transferred to the service of the L.P.T.B. in 1934, when that undertaking was acquired. He served as District Engineer in the Country Area until his appointment as Sub-Divisional Engineer (Southern Area) in 1948. In the following year he became Divisional Engineer, Country Buses & Coaches, South Division. In January this year Mr. Kirshner was appointed Divisional Engineer, C.R.S., South East Division, and became an Officer of the Executive.

Mr. H. F. C. Adcock, who, as recorded in our July 5 issue, has been appointed an Officer of the L.T.E., became Divisional Superintendent (South), Country Buses & Coaches, in 1951. He entered the service of the former Metropolitan Electric Tramways Company in 1924. After serving in various departments he was transferred to the Country Buses & Coaches Operating Department in 1938 and became an assistant district superintendent in 1941. Following war service he was appointed a district superintendent, Central Buses, in 1946 and became Operating Assistant (Country Buses & Coaches) later that year. He was appointed Divisional Superintendent (North) in 1949 and Divisional Superintendent (South) two years later.

Mr. D. H. Mills, who, as recorded in our July 5 issue, has been appointed Establishment Officer, L.T.E., joined the service of the London Electric Railway in 1925 in the office of the Assistant Secretary and was transferred to the department of the Chief Staff Officer in 1933. Since that date he has served continuously in various sections of the Staff and Establishment Departments, being appointed Principal Establishment Assistant in the Establishment Office last October.

Alan Muntz & Co. Ltd. announces that Sir Harold Roxbee Cox and Mr. K. I. Geddes have joined the board of that company.

The following retirements and promotions have been announced by the Malayan Railway:—

Retirements:

Mr. R. O. J. Coppage, Chief Accountant; Mr. E. F. Draper, Acting Assistant Chief Civil Engineer (Way); Mr. A. F. Long, Assistant Chief Accountant; Mr. H. T. G. Wright, Locomotive Superintendent; Mr. F. J. Hillier, Electrical Engineer; Mr. V. S. Sly, District Engineer, Kuala Lumpur.

Promotions

Mr. E. T. Williams to be Stores Superintendent; Mr. T. H. D. Russell to be Assistant Traffic Manager; Mr. K. Naylor to be Senior Assistant Traffic Superintendent, Mr. P. Angus to be Senior Outdoor Assistant, Mr. I. S. Nuttershah, Mr. S. S. Beng, Mr. S. Seenivasagam, Mr. L. M. Fatt, and Mr. C. A. Hong to be Assistant Traffic Superintendents.

Mr. G. S. Webster has been placed in charge of the Stoke-upon-Trent sub-office of the English Electric Co. Ltd., succeeding Mr. R. Edwards who has left the Company.

INSTITUTE OF TRANSPORT

The following nominations of the Council have been elected with effect from October 1, 1957:—

Mr. J. M. Birch, Managing Director, Birch Bros. Ltd.

Mr. A. R. Dunbar, Assistant General Manager, North Eastern Region, British Railways.

Mr. J. S. Gavin, Member, Tilling Group Management Board.

Mr. K. Granville, Commercial Director, British Overseas Airways Corporation.

Mr. C. A. Herring, Personnel Director, British European Airways Corporation.

Mr. A. S. C. Hulton, Managing Director, Shell Tankers Limited.

Mr. R. M. Robbins, Secretary & Chief Public Relations Officer, London Transport Executive.

Mr. L. M. Sayers, Assistant General Manager, London Midland Region, British Railways.

Mr. E. G. Whitaker, Deputy Transport Adviser, Unilever Limited, and Chairman, S.P.D. Limited.

Mr. C. E. Whitworth (Associate Member), General Assistant to General Manager, Eastern Region, British Railways.

Mr. N. L. G. Lingwood, Distribution Director of British Oxygen Gases Limited, has been re-elected President of the British Acetylene Association. He has held this office since 1956.

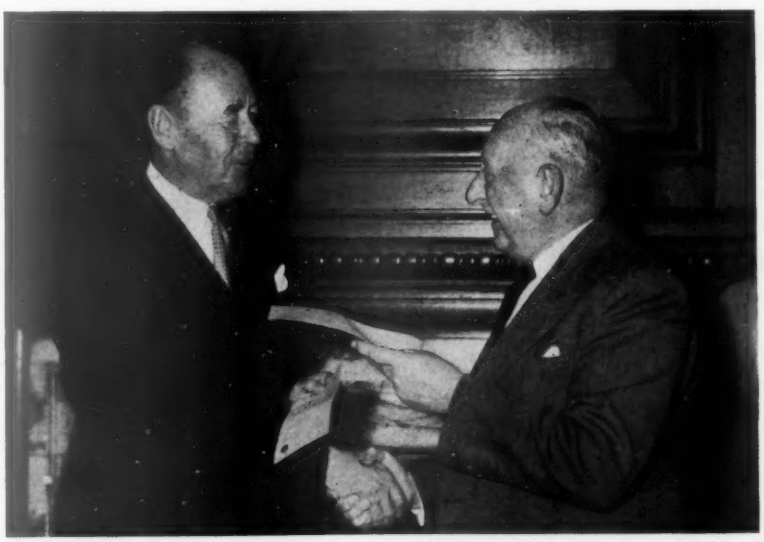
The accompanying illustration shows Mr. J. B. Thom, European Manager, and Mr. William Taylor, General Freight Agent, both of Canadian National Railways, who have retired (see also editorial mention elsewhere in this issue, and the Personal Section of our July 5 issue).

We regret to record the death on June 30, at the age of 83, of Major W. G. Wilson, C.M.G., B.A., M.I.C.E., M.I.Mech.E. Major Wilson was a pioneer in the motor industry, one of the inventors of the tank, and the Founder & Director of Self-Changing Gears Limited, manufacturers of the self-changing gearbox to which he gave his name. At an early age he was already an engineer of repute and a member of the firm of Wilson Pilcher. From the outbreak of the 1914-18 war he was connected with mechanised fighting vehicles and, with Sir William Tritton, evolved "Mother"—the prototype of the Mk. 1 tank, of which two types were used in the Somme battles. A secret trial of this tank took place at Hatfield in 1916 before a distinguished company which included Lord Kitchener, Mr. Balfour, and Mr. Lloyd George. As a result of this trial 100 of these tanks were ordered. The sum of £10,000 was granted to Major Wilson for his services and, in 1917, he was awarded the C.M.G.

Mr. Peter H. Jackson has been appointed an Assistant Sales Manager with the Lancashire Dynamo Group.

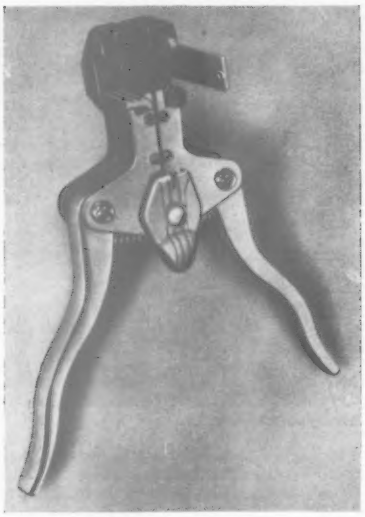
Mr. A. J. C. MacLeod has been appointed Export Manager of the Lancashire Dynamo Group. Since 1951 he has been Export Manager of Lancashire Dynamo Crypto, having joined the company in 1949. He served his apprenticeship with Metropolitan-Vickers Electrical Co. Ltd., and remained with them until 1945, subsequently joining the Electrical Construction Company.

The Queen, as Sovereign Head of the Order of St. John of Jerusalem in England, has bestowed the honour of Serving Sister in the Order to Mrs. Short, wife of Mr. H. A. Short, General Manager, North Eastern Region, British Railways, in recognition of her deep interest in ambulance work in the North Eastern Region. Mr. Short is himself an Officer Brother of the Order and President of the North Eastern Region Ambulance Centre. The Queen has also sanctioned the promotion in the Order, from Serving Brother to Officer Brother, of Mr. Collingwood Cooper, who, until his retirement was Regional Establishment & Staff Officer, North Eastern Region, British Railways.



Mr. J. B. Thom, European Manager, C.N.R. (left) and Mr. William Taylor, General Freight Agent in Europe, C.N.R., at a reception on the occasion of their retirement

NEW EQUIPMENT AND PROCESSES



Compact Wire Stripper

RECENTLY introduced is the Trig-o-Matic wire stripper, which embodies a patent trigger mechanism, which keeps the jaw bodies apart until the stripped wire has been withdrawn. Applications include the use with small wires for electric control and signal equipment.

The trigger mechanism feature is stated to prevent the buckling of wire strands during the stripping operation, which is very useful when dealing with finely stranded cable.

The tool can accommodate a cable range of from 0.014 in. to 0.144 in. conductor dia. and uses interchangeable blades of five overlapping sizes. The wire stripper may also be used for cutting copper and aluminium wire and a stripping gauge is fitted. The tool may be operated with either hand with ease.

A production time of up to 800 stripped cables per hour is claimed. The cutting blades are made from alloy steel, hardened and ground, and the bodies are die castings; all essential parts are bonderised. Interchangeability of all components is achieved.

The price of the stripper is 42s. and delivery can be made ex stock. The manufacturer is Erma Limited, Hong Kong Works, Exhibition Grounds, Wembley, Middlesex.

Portable Power Hacksaw

THE Fein power saw, particularly suitable for cutting operations on site where space is limited, is now available in this country. Rails, pipes and similar items can be cut cleanly without causing a burr as might be left if, for example, an acetylene burner were used.

The saw is available in two basic versions, the Type AST 60/1 electric-powered, and Type MOT 66/A air-operated models.

The machine can cut through material up to 10 in. across even in confined positions. The illustration shows the electric-driven model sawing a cast iron pipe situated only 1½ in. away from two adjacent pipes.

The cutting operation is carried out by a reciprocating saw blade secured at one end of the machine, operating at the speed of 240 strokes per min. A 2½-in. steel pipe with wall thickness of ¼ in. can be cut through in 1½ min. Blades supplied for the tool are made of high speed steel but it is of interest that even broken blades of bench hacksaw machines can be used for the tool.

The Fein machines are secured to bar or pipe by special clamps; the illustration shows the chain-type clamp used for cutting circular profiles. Once the tool has been fixed tightly to the work the machine is switched on and the blade commences to reciprocate, the stroke being 2½ in. The operator applies pressure on the handle, which causes the machine to pivot on the clamp centre pin, and engage the saw blade on the work.

Special adjustments located on the bases of the clamps allow the tool to swivel at controlled degrees for mitre cutting for the fabrication of pipe bends.

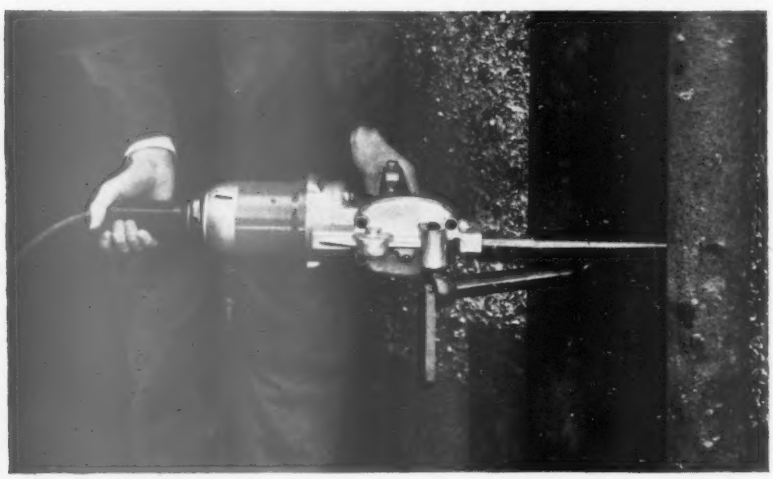
The weight of the electric model is 17 lb., and of the air-operated model 13½ lb. The electric model available to suit 50, 110, 200, or 200/250 V. a.c./d.c. supplies, requires 450-W. input. 70 lb. per sq. in. pressure is required by the pneumatic model and the consumption is 25 cu. ft. per min. The cutting capacity of the saws is 6-in. dia. steel or cast iron pipe or bar, and 10-in. wide profiles (square, angle or tee section).

The price of the Type AST 60/1 is £72, and Type MOT 66/A, £75. At present, both models are available from stock.

Full details of the machines, including accessories, are available from Trend Industrial Equipment Limited, 5, The Ridgeway, Stanmore, Middlesex.

Lead-acid Battery Tester

AN instrument, suitable for the speedy testing of lead-acid batteries as normally fitted to road motor vehicles, has been introduced. This is the Hydrolek, which operates on an entirely new principle and can, it is stated, be used to make a reliable check in less than two minutes.



The Hydrolek indicates the charge and condition of the battery, predicts battery failure and tests the charging voltage. It is compact and comprises a high quality moving coil instrument mounted in a small plastic case of approximate dimensions 3 in. × 2 in. and this is connected by a length of P.V.C.-covered cable to a moulded handle upon which is mounted two phosphor bronze prods.

The instrument works on the well-known principle that the change in the voltage of a battery on a charge/discharge cycle is in direct relation to the change in specific gravity; only recently, however, has it been possible to use this small voltage change. The Hydrolek amplifies the voltage change and spreads it over a large scale, each division of which represents $\frac{1}{100}$ V. It is, therefore, necessary merely to prod each cell in turn to determine the state of charge.

When employed for testing battery condition, the state of charge and cell conditions are accurately indicated on zoned

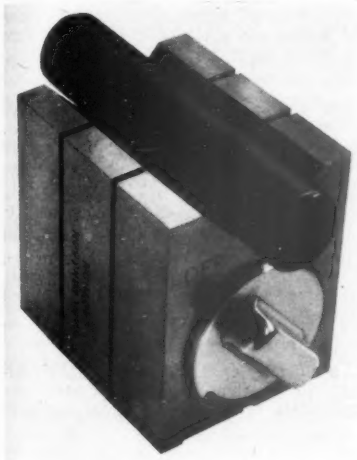
scales marked "serviceable" and "recharge." The reading shows at a glance when the battery is serviceable or if recharging or replacement is needed. For testing the charging voltage, a supplementary scale shows the voltage conditions in the charging system on scales marked "low," "normal" and "high," and the reading shows the setting of the voltage regulator and confirms the condition of all circuits and components in the charging circuit.

The price of the Hydrolek is £7 10s. complete, and delivery can be made ex stock. The manufacturer is Crypton Equipment Limited, Bridgwater, Somerset.

Magnetic Vee Blocks

A PERMANENT magnetic vee block is the latest addition to the Microtest range of steel vee blocks, suitable for tool room prototype, inspection and standards work, for drilling, grinding, marking off and similar operations. The block incorporates a number of features which, it is stated, make the product useful and versatile.

These include the permanent magnet situated in the centre of the block, with laminations kept away from the working surfaces, allowing an accurate finish to



these faces, all of which, except that incorporating the switch, are suitable for datum positions.

When the block is switched on the work is held rigidly and the block itself is held securely on the machine or marking off table. When it is necessary to alter the position of the block but not the workpiece, the switch is turned off but the work is still held with sufficient power for the block to be turned to any new position.

Unrestricted access to the work is always obtained. The magnets, which are guaranteed to maintain their full power indefinitely, provide a uniform grip over the whole working surface of the block. The material of the block is case hardened steel; all surfaces are ground. The sides are ground parallel to each other and at right angles to the end faces and the 90 deg. vee is centrally positioned.

The block measures 3¼ in. high × 3 in. long × 2⅝ in. wide, and weighs 6¼ lbs. Details may be obtained from the distributor, William Urquhart, 1023, Garratt Lane, London, S.W.17.

Improved Performance Power Battery

THE Pg power battery incorporates a new design of double-sleeve plate construction. Of application to battery-propelled vehicles, such as fork-lift and works trucks, the range of batteries which will be introduced will have increased capacity with longer life and lower weight.

It is claimed to afford an answer to the problem of retaining the active material around the grid structure. Deterioration of the positive plates, hitherto the main life-determining factor, has been virtually overcome, so that service life expectancy has been appreciably extended, with a corresponding reduction in annual battery costs. The Pg battery requires much less frequent topping up: as there is now no longer any need to leave a deep space at the base of the battery for sediment, the plate groups are positioned lower in the cell, so allowing the height of free acid above the tops of the plates to be much increased.

Compared with a standard battery of the same size, a Pg traction battery, or a set of Pg batteries, can show an appreciable saving in weight.

The advantage of use of the unit in works and fork-lift trucks is extra reserve capacity within a given space; this enables more work to be done in a shift.

Details may be obtained from the manufacturer, Oldham & Son Ltd., Derbyshire House, St. Chad's Street, London, W.C.1.

Marking Protective Clothing

A SERVICE for permanently marking Jeltek protective garments, such as those supplied for outdoor railway workers, with a name, badge, or emblem, involves the silk-screen method whereby letters or emblems are reproduced with equal fidelity. Two types of special ink are used: for p.v.c.-type garments, the ink impregnates the material and becomes part of it and the impression will not peel off, crack, or fade. For donkey jackets, duffle coats, and so on, the process is the same, though a different ink is used.

The service is available in a wide range of colours, average cost being approximately 9d. a garment; the minimum quantity is 100 garments. It is claimed that, apart from the obvious fact that permanent identification helps to prevent pilferage losses, the method provides an attractive finish.

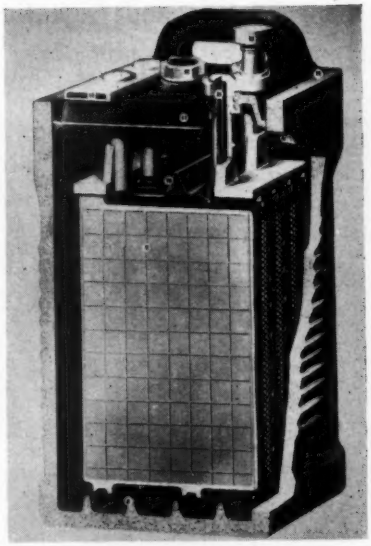
Details may be obtained from the manufacturer, J. E. Lesser & Sons Limited, Green Lane, Hounslow, Middlesex.

Interchangeable Blade Milling Cutter

THE Abul milling cutter, being introduced shortly, whilst having the basic principle of removal, is different from the conventional cutter in that no cutter grinding is required, thereby showing a saving in both first and maintenance costs.

The design of body and blades provides for inline, progression, and step milling; the serration in the body governs the radial position of each blade, which simplifies setting and locking of the blades.

In contrast to the conventional type of face milling cutters, which must be taken off the machine and cutter ground, with

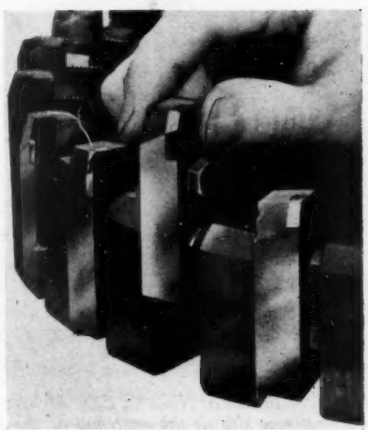


the Abul cutter some or all the blades can be changed with the cutter body on the machine. The cutter blades are reground free-hand, using a simple fixture which reduces grinding costs, it is stated, by 75 per cent; it also enables any damaged blade to be replaced in about 2 min.

Face milling with the conventional type requires much greater h.p., which is not always available; if it is available the work piece requires massive fixtures. Introduction of negative rake milling in these conditions puts stresses into the work piece and very often causes trouble in later operations and undue wear on the machine.

When progressive milling, it is not always possible to utilise the full h.p. available, and step milling can be carried out. In this case several blades are set in each step and fitted evenly around the cutter, keeping the cutter in balance. Greater feeds, depth of cut, and longer life between re-grinds are obtained. The body can take tools for light alloys, copper, bronze, cast iron, and steel. The blades used are of a standard pattern, the only differences are the grade of carbide and the cutting rake.

Details, including price and delivery, may be obtained from the manufacturer, Harry Milnes Limited, Montrose Works, Harwood Street, Sheffield 2.



New Station and Signalling at Nakuru, E.A.R. & H.

Inauguration of first power-operated signalling layout in East Africa

Passenger train for Uganda, hauled by Beyer-Garratt locomotive, leaving new passenger station; power-operated signal cabin in centre

The remodelling of Nakuru station and marshalling yards, East African Railways & Harbours, begun in 1950, was virtually completed when the Governor of Kenya, Sir Evelyn Baring, officially opened the new station and signalling on June 14.

Nakuru is situated in a thriving agricultural area about 100 miles north of Nairobi where the main line continues on to Uganda, and is near the junction for the branch to Kisumu on Lake Victoria.

The remodelling has been carried out in stages, commencing with the locomotive shed and yard, completed in December, 1952; the goods shed and yard, completed in January, 1954, and the bridge over the main road to Nairobi, and District offices, opened in April, 1955.

The new passenger station has been constructed on an entirely new site at the east end of the new marshalling yard. As shown in the accompanying illustration, the building embodies several contemporary architectural features; it includes administrative offices, the usual ticket, information, and baggage facilities, a lounge bar and restaurant, refreshment rooms, and so on. At one end of the station are facilities for handling parcels traffic and for storage of perishable goods and valuables. The total length of platforms is some 5,400 ft. Some 220,000 passengers and 150,000 parcels a year are dealt with at Nakuru.

Signalling Installation

Besides the opening of this most modern station on the East African Railways & Harbours, another landmark was also achieved by the bringing into operation of the first power-operated signalling layout in East Africa.

To facilitate the handling of the growing through traffic to Uganda and also movements to and from the marshalling yards, the whole of the traffic movements in the area are controlled from one signal cabin designated Nakuru East, which is located at the end of No. 1 platform. A miniature power frame of 39 levers controls the colour-light signals of the long-range, two-aspect type, which are equipped with direction indications where necessary.

Operation of all points is by electric point machines equipped with controllers. Power frame levers are electrically interlocked with all signal direction indicators and points are electrically indicated over the levers concerned.

Track Circuits

The whole of the layout under control is continuously track circuited, using d.c. track circuits fed from individual rectifier sets. An illuminated diagram of the spot-light type is provided over the power frame.

All relays are of the plug-in type, mounted on a rack which was pre-wired before leaving the manufacturer's works, as was the power frame and trackside apparatus cases, which greatly facilitated installation on the site.

Opening Ceremony

To officially open the station and signalling, Sir Evelyn Baring operated the appropriate levers in the signal cabin to

Passenger station at Nakuru, East African Railways & Harbours, rebuilt on a new site at the east end of the new marshalling yard

Sir Evelyn Baring in the new power-operated signal-box; on his left is Mr. W. Urquhart

signal one train into the station from the marshalling yards, and a second through the station into the yard.

Sir Evelyn Baring was accompanied at the ceremony by Mr. M. Blundell, Minister for Agriculture. Others present included:

Major-General W. D. A. Williams, Commissioner for Transport, East Africa High Commission; Messrs. W. Urquhart, Deputy General Manager, and J. M. Kesson, Acting Chief Engineer, E.A.R. & H., and A. Winston-Smith, Mayor of Nakuru; also many guests and other officers of E.A.R. & H.

The new passenger station was designed and executed by the Chief Engineer, E.A.R. & H., Mr. C. T. Henfrey and his staff, and under the direct supervision of the District Engineer, Nakuru, Mr. J. Railton.

The power signalling equipment was supplied by the Westinghouse Brake & Signal Co. Ltd.

Fulmer Research Institute Open Day

The 1957 open day of the Fulmer Research Institute was held on July 2, as briefly recorded in our July 5 issue. Mr. P. Horsfall, Chairman of Almin Limited, the group which founded the Institute, presided.

The Institute was opened in 1947 by Sir Stafford Cripps, then Chancellor of the Exchequer. It is a sponsored research establishment, for bringing research facilities within the means of firms which are themselves unable to maintain a full-time laboratory.

Under the normal conditions of sponsorship, research work is carried out on a strictly confidential contractual basis with the results, including patents, belonging entirely to the individual sponsor.

During the past 10 years, nearly 700 British firms have submitted technical problems to the Institute. Many of these have been in the nature of routine testing or analysis, while others have dealt with service failures and important short term investigations.

Nature of Work

Most of the work of the Institute has been of a metallurgical or chemical character but problems relating to glass, ceramics, plastics, textiles, timber and asbestos, which have come within the orbit of training and experience of the staff have been successfully undertaken.

Research equipment such as the EM3A electron microscope manufactured by Metropolitan-Vickers Electrical Co. Ltd., shown in the accompanying illustration, can be usefully employed on a wide variety of problems, such as the examination of practical shapes and sizes (of importance in the paint, magnetic powder, and fluorescent tube industries), the contamination of catalysts in chemical processes, and the nature of asbestos fibres.

Expansion

To satisfy the growing demand for the Institute's services three separate single-storey buildings have been erected. One of these houses experimental casting and metal working, heat treatment and machine shops. Another houses the engineering and mechanical testing laboratory, and recently the physical metallurgy section has been re-housed in a third major building.

Closing Lines in Northern Ireland

The Northern Ireland Senate recently gave a second reading to the Transport (Amendment) Bill which seeks to terminate the services on the secondary lines of the Great Northern Railway Board in Fermanagh, Tyrone and Armagh.

The Minister of Commerce, Lord Glentoran, who intervened in the debate, said that the action of the Government in closing the lines was dictated by no other consideration than that of the public interest. The loss in 1955 was £200,000, which was only part of the total £2,000,000 loss on the G.N.R. Those losses represented a threat to the whole future of transport in Northern Ireland. It would be unrealistic for the Government to spend large sums of money in keeping the lines open when the public itself had clearly demonstrated its preference for the roads.

Extra Road Vehicles

Lord Glentoran said that the Ulster Transport Authority estimated that it would require only 14 more 'buses and 24 lorries to replace the railway lines to be closed, and they did not yet know how many would be needed for the cross-Border services.

As to the suitability of the roads, he said that the additional number of vehicles using them was likely to be very small. The problem of the road authorities would not be aggravated.

The Minister said that he could give no undertaking that the particular railway sections to be closed would be left intact indefinitely. It was the rule that they were left for a certain time.

In regard to redundancy and compensation, the report of the joint inquiry estimated that some 330 railway employees would be displaced. The position would be discussed with the trade unions.

Improvements at Bromley South, Southern Region

The much-needed improvements to Bromley South Station, Southern Region, are now in hand. The existing booking hall and parcels office are being modernised, and a new glass-fronted ticket office is to be equipped with the latest type of ticket issuing machine. Central heating will be installed and gas lighting replaced by electricity.

At platform level certain disused buildings at the north end on both sides are being demolished, and the platforms themselves lengthened to take 12-car trains, and the roofing entirely renewed.

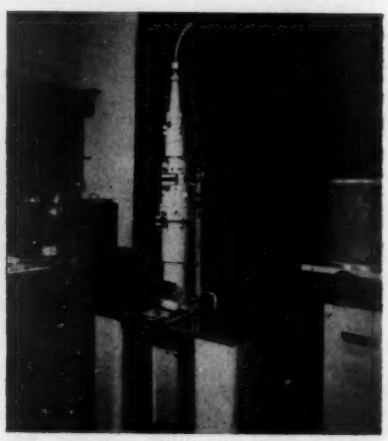
Rearrangement of Tracks

Besides reconstruction work at the station there are large-scale permanent way works to be carried out in the vicinity which form part of Stage 1 of the Southern Region Kent Coast electrification scheme. The track is being re-arranged and re-aligned in the Shortlands and Bickley areas to enable speed restrictions to be eased and the line between Bickley Junction and Swanley is being widened to take two extra tracks.

This will result in the island platforms at Shortlands, Bromley South, and Bickley Stations serving trains in opposite directions, instead of the present arrangement whereby all up trains are dealt with on one platform and all down on the other. As Bromley South is a focal junction point, a new footbridge is being provided to help passengers changing from fast to slow services and vice versa.

St. Mary Cray Station is being redesigned and provided with two new island platforms to take 12-car trains.

Mechanical testing and fatigue laboratory at the Fulmer Research Institute



EM3A electron microscope

B.T.C. Fares Application Hearing

Further evidence before the Transport Tribunal

The Transport Tribunal continued on July 3 the hearing of the B.T.C. application for increases in certain British Railways and London Transport fares. If the application is approved, the Commission will obtain an additional revenue of £4,500,000 from London Transport and £1,200,000 from British Railways London lines. There are 41 objectors. Previous proceedings were reported in our issues of June 7 and July 5.

The Tribunal was told on July 3 by Mr. E. S. Fay, Q.C., for the Commission, that the reduction in the price of fuel oil announced on July 2 would save London Transport some £138,000 a year. When Mr. B. H. Harbour, a Member of London Transport Executive, was asked whether economies could be made in publicity posters, he replied that the pursuit of economy was constantly going on. General publicity added to goodwill, and he was not prepared to accept for one moment that it is only publicity that advertises particular journeys which yields additional revenue.

Mr. Dudley Collard, for the South Essex Traffic Advisory Committee, suggested a new form of season ticket which would be available for either five or six days a week, and for one journey only in each direction per day.

Mr. Harbour agreed on July 5 that London Transport had lost passengers because of previous increases in fares. There had been a steady and continuous loss of passenger traffic to London Transport since 1948.

Mr. Rippon, for five London boroughs, said there had been a fall of 2,251 million passenger miles and 719 million passenger journeys since 1948. Was this not the result of a policy of increasing fares? Mr. Harbour replied that some part of the loss of passenger traffic was due to higher fares. They had to raise additional revenue and to recognise that some of the traffic had been either lost or had shortened its journeys. In the estimates in the current application, there were discounts in the yield statement which represented a further loss. He knew of no cheap fare which had led to an increase in the net revenue of London Transport. London Transport had introduced a number of cheap facilities. They had not produced additional revenue and in many respects they had been disappointing.

Season Tickets

Mr. Harbour denied that an attack was being made on season ticket holders. "We are attacking no one," he said. "We are in the unfortunate position of having to raise additional revenue. We are not singling out any one group from which to raise it." He would like to see a greater staggering of working hours in London.

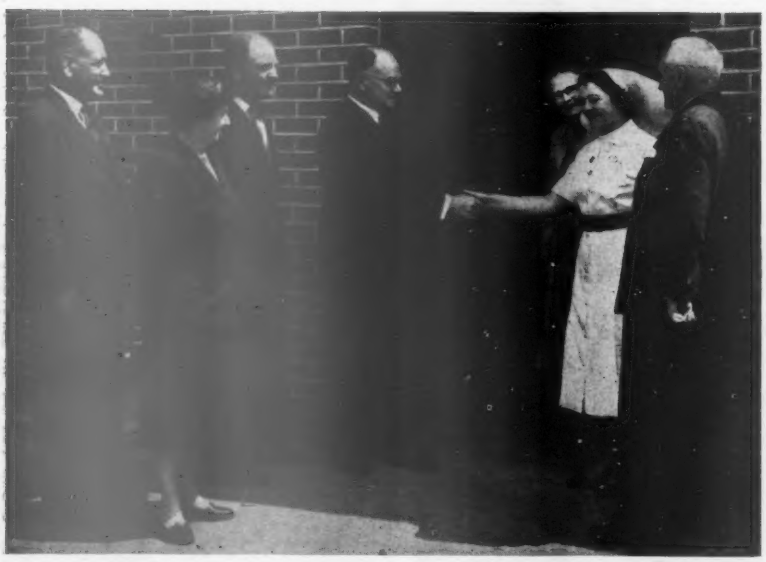
Mr. Geoffrey Lawrence, Q.C., for the L.C.C., submitted that the scheme should be modified so that season tickets for the London area should be left untouched and there should be no increases in ordinary fares of 1s. 5d. and above.

Continuing on July 5, Mr. Lawrence maintained that any increase was liable to set off further inflationary tendencies.

Mr. Geoffrey Rippon claimed that London Transport fares policy had had the effect of driving off the casual or pleasure traveller.

The hearing was adjourned until July 17.

New Medical Department at Eastleigh



At the opening ceremony (left to right): Mr. L. J. Haydon, Regional Medical Officer; Miss Pain, Matron, Royal South Hants Hospital; Dr. T. P. Howkins, Area Medical Officer, Eastleigh; Mr. C. P. Hopkins, General Manager, Southern Region, shaking hands with Sister Longmuir; and Mr. J. E. Binks, Member, Southern Area Board (see page 30 of last week's issue)

Parliamentary Notes

Salaries of Nationalised Board Members

The Prime Minister, Mr. Harold Macmillan, concluding his statement on July 4, on proposals for increasing the salaries of Ministers and M.P.s, stated:—

"Finally, the Government have decided that the long-deferred adjustment of salaries of members of the boards of nationalised industries should now take place. A plan has been worked out. Without going into all the details now, I will give two figures to illustrate the order of the adjustments. The maximum salary of the Chairman of a major board will be raised from £8,500 to £10,000, while that of a member of such a board will be raised from £5,000 to £7,000. In accordance with precedent—and in some cases with statutory requirements—the changes will be reported to Parliament in detail in due course.

"A convenient date for these changes in emoluments and salaries would seem to be July 1."

Members of the House of Lords, who are now to be allowed to claim a reimbursement of actual expenses arising out of unpaid service, of £3 3s. for each day of attendance, have at present only free rail travel to Westminster.

Staff and Labour Matters

Shorter Working Week

At the annual conference of the N.U.R. on July 4, a resolution was carried instructing the union executive committee to open negotiations with the B.T.C. for a 40-hr. week for railway staff and an additional week's winter leave.

The resolution called for the fullest consultation between the B.T.C. and the N.U.R. when modernisation changes are contemplated and demanded enquiry into the question of private contractors being supplied with work at the expense of staff in the railway workshops.

It is understood that decisions concerning railwaymen's wages reached in private session at the N.U.R. annual conference were kept secret but that the executive committee of the union would consider the matter when it meets in August to study the report of the conference. Mr. Campbell, the General Secretary, is reported to have said "You can take it there will be no immediate application for wages before the executive committee meets and may be not for a long time after that."

Threatened Bus Strike

After a meeting with Sir Wilfred Neden of the Ministry of Labour & National Service on July 8, representatives of employers on the National Council for the Omnibus Industry made no statement.

Subsequently an announcement was issued by the Conference of Omnibus Companies indicating that in view of the union's declaration of their intention to call a national stoppage of provincial omnibus companies on July 20, the Conference had reported a dispute to the Minister of Labour under the Industrial Disputes Order, 1951, with a view to the difference between the two sides of the National Council being referred to the Industrial Disputes Tribunal for arbitration.

Contracts and Tenders

Roller bearing fitted tank wagons for British oil company

Orders have been placed by the Esso Petroleum Co. Ltd., for a total of 753 rail tank wagons, valued at more than £1½ million, with the following manufacturers:

Hurst Nelson & Co. Ltd., Motherwell: 314 tank wagons

Charles Roberts & Co. Ltd., Horbury Junction, Wakefield: 315 tank wagons

Cambrian Wagon & Engineering Co. Ltd., Cardiff: 124 tank wagons.

These tank wagons are of both class "A" and class "B" types, the latter being fitted with steam heating coils. They are being built to an entirely new specification and will have a maximum gross load of 35 tons. They will be fully equipped to meet the requirements of the B.T.C. modernisation scheme, notable features being the provision of roller bearing axleboxes, hydraulic buffers, and vacuum brakes.

The use of these modern rail tank wagons travelling in freight trains at speeds of up to 70 m.p.h. is expected to give a much quicker turnround and lead to a marked improvement in the company's inland bulk distribution facilities.

Orders for 150 diesel locomotives have been placed by Canadian National Railways with four manufacturers in Canada and the United States, to the value of about $27,000,000. Delivery will begin in October this year and will be completed in December 1958. The order includes 17 main-line passenger units for use in Eastern Canada, 80 main-line shunting units, and 19 yard shunting units, all to be built by General Motors Diesel Limited, London, Ontario. Montreal Locomotive Works, Limited, will build 30 1,800-h.p. main-line shunting units for use in Canada. Two main-line shunting units will be built by the General Motors Corporation for the Central Vermont Railway, and Alco Products Incorporated, New York, will build two yard shunting units for the Grand Trunk Western Railway.

The British Transport Commission, South Wales Docks, has placed the following contracts:—

Cowans, Sheldon & Co. Ltd.: provision of five 10-ton electric cranes and 12 grabs, Barry Docks

South Wales Switchgear Limited: supply and installation of h.t. and l.t. switchgear and transformers, 11-kV. ring main, Barry Docks

Treforest Electrical Services Limited: supply and installation of h.t. and l.t. cables, 11-kV. ring main, Barry Docks

D. T. Edwards & Co. Ltd.: renewal of sheeting and repairs to steelwork, 'M' shed, Swansea Docks

Penarth Pontoon Slipway & Shiprepairing Co. Ltd.: repairs to dredger *Peeress*, Cardiff Docks.

British Railways, London Midland Region, have placed the following contracts:—

Bosworth & Wakeford Limited, Daventry, Northants: improvements to passenger station, Leighton Buzzard

Mellowes & Co. Ltd., Sheffield 3: patent glazing roof No. 175, 177, 184, and 185, old works smithy, Crewe Locomotive Works

Greenwoods (Mansfield) Limited, Mansfield, Notts.: messroom accommodation, north carriage sidings, Basford

William Freer Limited, Leicester: ventilating plant iron foundry, Derby Locomotive Works

T. E. Cundy & Son, Ltd., Leicester: labour only, cleaning and painting, Queen Street Goods Depot, Leicester

R. Myles Limited, Liverpool 3: amenities for wages staff, goods depot, Butler Street, Preston

J. E. B. Wheatley, Kirkby-in-Ashfield: repairs and repainting to brickwork arches 7-11, Giltbrook Viaduct, Awsworth

United Kingdom Construction & Engineering Co., Ltd., Kirkby Industrial Estate, Liverpool: formation renewal and drainage, down side, between Chelford and Alderley Edge

James Carmichael (Contractors) Limited, Wandsworth, London, S.W.18: alterations and re-decorating stages 2-6, Estate and Rating Department accommodation, Central Offices, Euston, and Medical Officers accommodation, 66 Drummond Street, Euston, N.W.1.

British Railways, Southern Region, have placed the following contracts:

C. & T. Painters Limited, London N.W.10: renovations, Hildenborough station

Caffin & Co. Ltd., London W.C.2: reconstruction, Malden Bridge

W. R. Payne & Sons, Shipley, Yorks: renovations, Dover Priory station

Edwin Danks & Co. (Oldbury) Ltd., Oldbury: new boiler house, installation of three steam boilers, and heating scheme, Eastleigh Carriage & Wagon Works

W. & J. Glossop Limited, Exeter: resurfacing and surface dressing of roads, footpaths, and platforms, Exeter District

G. N. Haden & Sons Limited, Canterbury: installation of heating and hot water services, Canterbury West new staff accommodation

Apex Insulation Co. Ltd., London E.9: insulation of hot and cold water services, Gillingham (Kent) carriage shed

Fredk. Hayden Limited, Tunbridge Wells: installation of central heating and hot water services, new office accommodation, Lancing

W. R. Payne & Sons, Shipley, Yorks: renovations, Sandwich station

G. E. Wallis & Sons Ltd., London, W.C.2: new switch chamber substations and cable routes, Nine Elms

Harland & Wolff Limited, London, E.16: reconstruction of platform roofing, Newhaven Harbour station

W. H. Gaze & Sons Ltd, London, S.W.15: resurfacing of roads and construction of car park, Dorking North station

Metallisation Limited, Dudley, Worcs: metal spraying to superstructure, Norwood Fork Bridge

Maurice Hill Limited, Horndean, Hants: renovations, Shanklin station.

British Railways, Scottish Region, have placed the following contracts:—

Kings & Co., Ltd., Glasgow: new roadways, gates and fences, General Terminus Station, Glasgow

A. & J. Faill, Limited, Glasgow: roads, foundations and drainage, Gushetfaulds & Kinning Park Goods Depots, Glasgow

P. & W. Anderson (Glasgow) Limited, Glasgow: reconstruction of platform buildings, Partick Hill Station, Glasgow

P. & W. MacLellan Limited: expansion bearings on Tay Bridge, Dundee

Alex. Findlay & Co., Ltd., Motherwell: re-decking, South Esk Viaduct, Montrose

Industrial Engineering Limited, Glasgow: re-roofing engine shed, Dundee Tay Bridge

McKean & Co. (Glasgow), Ltd., Glasgow: foundations, floor, and drainage, wagon repair depot, Townhill Junction, Fife

Alex. Findlay & Co., Ltd., Motherwell: steelwork, sheeting, glazing, wagon repair depot, Townhill Junction, Fife

Cowans Sheldon & Co., Ltd., Carlisle: provision of locomotive turntable, new marshalling yard, Perth

Kinnear Moodie & Co., Ltd., Glasgow: earthworks at Bowshank Tunnel

James Miller & Partners, Ltd., Edinburgh: earthworks for connecting lines, Craiglockhart and Slateford, Edinburgh

Steels Engineering Products Limited, Glasgow: provision of nine mobile cranes, Scottish Region.

The Special Register Information Service, Export Services Branch, Board of Trade, has received a call from Formosa for mine locomotives as follows:—

2 mine locomotives, two cylinder, four cycle diesel engine powered, and spare parts.

The issuing authority and address to which bids should be sent is the Central Trust of China, Purchasing Department, 68 Yen Ping Nan Road, Taipei, Taiwan (Formosa). This purchase will be financed by the International Cooperation Administration (I.C.A.), the agency through which the United States Government gives economic and technical assistance to under-developed countries. The project implementation order No. is 84-21-007-9-70248. The closing date is July 24, 1957. United Kingdom firms who wish to tender should if possible obtain the necessary documents direct from the Central Trust of China. A copy of the specifications and conditions of tendering is available for inspection in Room 728 of the Branch (Lacon House, Theobalds Road, W.C.1.). An additional copy is available for loan in order of application. Photo-copy sets of the documents can be obtained at the cost of 7s. from the Branch. Cheques and postal orders should be made payable to the Principal Accountant, Board of Trade. Bids must not be submitted on these photo-copies. Firms wishing to collect photo-copies of documents are advised to notify the Branch in advance of their requirements. The reference ESB/15889/57/I.C.A. should be quoted in any correspondence with the Branch.

The Special Register Information Service, Export Services Branch, Board of Trade, has received a call from South Africa for narrow gauge bogie tank wagons and components, as follows:—

(a) bogie tank wagons type NG.X 8
(b) cast steel bogies
(c) wheels and axles

The issuing authority is the Stores Department, South African Railways. Bids in sealed envelopes, endorsed "Tender No. B.6614," should be addressed to the Chief Stores Superintendent, P.O. Box

8617, Johannesburg. The closing date is August 9, 1957. Tender documents may be obtained from the Office of the Chief Stores Superintendent where a deposit of £50 per set is required in respect of tender documents for initial supply, £20 per set of tank and underframe drawings, and £5 per set of bogie drawings. In case of subsequent supplies a deposit of £25 for each set of tender documents, £10 per set of tank and underframe drawings, and £2 10s. per set of bogie drawings is required. Drawings in respect of wheels and axles may be purchased for a nominal amount. A set of tender documents is available for inspection at the Office of the South African High Commissioner, South Africa House, Trafalgar Square, London, W.C.2. The Branch (Lacon House, Theobalds Road, W.C.1) has no further information about this call for tenders. Copies of a leaflet issued by the Stores Department of the South African Railways regarding " Instructions for the Guidance of Overseas Tenderers and their South African Representatives or Agents," are available in the Branch. The reference ESB/15275/57 should be quoted in any correspondence with the Branch.

The Director General, India Store Department, London, invites tenders for the supply of steel inner fireboxes for broad-gauge locomotive boilers. See Official Notices on page 60.

Notes and News

Visit of B.T.C. and British Railways Stores Officers to S.G.E. Works.—Stores officers of the British Transport Commission and of British Railways on June 25 visited the works at Wembley of the Siemens & General Electric Railway Signal Co. Ltd. The visitors were Messrs. R. B. Hoff, Chief Stores Officer, British Transport Commission: and A. W. J. Dymond, C. R. Atkins, R. L. P. Cobb, A. B. MacLeod, and W. McKie, Stores Superintendents respectively of the Western, Scottish, Southern, London Midland, and Eastern & North Eastern Regions. The accompanying illustration shows (left to right): Messrs. A. W. J. Dymond; F. L. Castle, Managing Director of Siemens & General Electric Railway Signal Co. Ltd.; W. McKie; A. B. MacLeod; C. R. Atkins, R. B. Hoff; R. L. P. Cobb; and J. Sulston, Signal Engineer; T. Austin, Chief Engineer, and F. G. Mitchell, Commercial Manager, Siemens & General Electric Railway Signal Co. Ltd.

Injured Climber Rescued by Snowdon Mountain Railway.—A climber who had lain with a fractured skull on a ledge on Snowdon was rescued last week by a party which made a special journey by the Snowdon Mountain rack railway part of the way up the mountain to fetch him and an injured companion. The train completed the return journy in 2½ hr.

Irish Shipping Lines to Enter Cross-Channel Traffic.—Speaking in the Dail on July 3, Mr. Sean Lemass, Minister for Industry & Commerce, stated that the next extension of activities of Irish Shipping Lines, owned by the Republic of Ireland, would be to engage in the cross-Channel trade. Until now, the services of this company have been mainly to Continental ports, Canada, and the U.S.A. Dealing with internal transport, Mr. Lemass said that major decisions would have to be taken this year. Last year C.I.E. losses were £1,850,000, and the estimated loss this year was about the same.

Railway Excursions Without Passports.—From July 15 to August 29 inclusive the British and French Railways will operate a " no passport " excursion from Newhaven and other South Coast resorts to Dieppe, leaving Newhaven at 11.35 a.m. on Mondays, Tuesdays, Wednesdays, and Thursdays, and on the return leaving Dieppe at 1.30 in the early hours of the following day. More than 10 hr. will be spent on French soil and the fare from Newhaven to Dieppe and back will be 61s. 6d. second class (children three years old and under 14 years 36s.) Bookings at proportionate fares will be available from Bognor, Littlehampton, Worthing, West Worthing, Shoreham by Sea, Hove, Brighton, Hastings, St. Leonards, Bexhill, Eastbourne, Lewes, and Seaford.

Transport Tribunal Annual Report.—The annual report of the Transport Tribunal, as required by the Transport Act, 1947, has been forwarded to Mr. Harold Watkinson, Minister of Transport & Civil Aviation. Reference is made to proceedings relating to the British Transport Commission (Railway Merchandise) Charges Scheme, alterations to the B.T.C. (Passenger) Charges Scheme, 1954, and the B.T.C. (Passenger) Charges Scheme, 1956. The report also deals with the Harbours and Inland Waterways Charges Schemes and with numerous appeals under Section 15 of the Road & Rail Traffic Act, 1933.

John Thompson Record Output.—The output of John Thompson Limited reached the record figure of £26,470,176 in 1956. This figure is 14 per cent greater than in the previous year and is more than double that of four years ago. Mr. E. W. Thompson, the Chairman, states that despite increased turnover, orders on hand not invoiced at the end of the year, at £38,000,000, were £4,000,000 higher than in 1955, and by the end of March they had increased by a further £500,000. To finance these additional orders and especially additional capital equipment, it is proposed to make a one-for-seven rights issue. Borrowing powers are to be raised to £5,000,000.

Care of Livestock in Transit.—In reply to a letter published in *The Daily Telegraph* recently from a correspondent who suggested that animals often went hungry and thirsty because railwaymen were afraid to enter horse boxes containing loose bulls. Mr. J. H. Brebner, Public Relations Adviser, British Transport Commission, points out in a letter to the same newspaper that the regulations governing the conveyance of livestock by rail emphasise that all bulls must be tethered, and not allowed to travel loose. All animals conveyed by British Railways, he explains, are inspected en route, and watered and fed according to their particular needs at recognised points where there are staff skilled in livestock handling.

North Wales Radio Land Cruise Train.—The Western Region of British Railways is operating a North Wales Land Cruise Train this summer. The train, which passes through some 150 miles of Welsh scenery, made its first trip on July 9 and will run on Tuesdays and Thursdays until September 5. Starting from Pwllheli at 10.10 a.m., the train takes a route via Criccieth, along the coast of Cardigan Bay to Barmouth, through the Vale of Edeyrnion to Corwen, via Dolgelley, skirting Bala Lake, through the Vale of Clwyd via Ruthin and Denbigh to Rhyl. After a stop of 1½ hr. the trip continues along the North Wales coast via Bangor to Caernarvon, from whence it returns to Pwllheli, arriving at 5.25 p.m. A descriptive commentary on features of interest en route is given on the train, which is equipped for radio reception, and popular music or B.B.C. radio programmes, news, and so on, are provided at suitable intervals during the cruise. Light meals and refreshments are obtainable from the cafeteria car and passengers can join the cruise at most of the stations between Pwllheli and Corwen. A pamphlet has

Stores officers of the British Transport Commission and of British Railways at the Siemens & General Electric Railway Signal Co. Ltd. works at Wembley

been issued giving a survey of the route, and this can be obtained from railway stations and offices.

Dorman, Long & Co. Ltd. Dividend.—At the recent board meeting of Dorman, Long & Co. Ltd., the directors decided to pay an interim dividend for the year to September 30, 1957, of 4 per cent less tax on the ordinary shares.

Edgar Allen & Co. Ltd. Results.—An unchanged ordinary dividend of 12½ per cent is announced by Edgar Allen & Co. Ltd. Group turnover for the year ended March 31 rose by some 15 per cent over 1955-56. Profits advanced to £292,916 (from £185,353), after tax of £360,414 (£273,592), special debits of £4,284 (£7,300), and including special credits of £40,050 (nil).

Compensation for G.N.R.(I.) Emloyees.—A meeting was held in Dublin recently, between the management of the G.N.R.(I.) and trade union officials representing the conciliation and salaried grades, arising out of the recent statements by Lord Glentoran, Minister of Commerce, Northern Ireland, regarding the closing of secondary lines. After a discussion the trade union representatives protested that the position was obscure and unsatisfactory because the management was unaware of the procedure envisaged by the Minister relating to consultation with the unions. The union representatives decided to make representations to the Minister of Commerce, asking him to meet them immediately to discuss the position.

Nyasaland Railways' Results.—A preliminary statement of group profits of Nyasaland Railways Limited shows that group net operating profits for 1956 advanced to £486,922 from £392,284 for 1955, after providing £121,384 (£118,336) for renewal of fixed assets, but before charging £162,946 (£105,368) for tax. Credit is taken for other income and provisions no longer required of £31,640 (£34,587). By agreement with the Government of the Federation of Rhodesia and Nyasaland the rate of interest on the consolidated income debenture stock, all of which is held by the Federal Government, is reduced from 4 per cent to 3½ per cent per annum as from January 1, 1956, in recognition of the loss of the customs franchise formerly enjoyed by the company. A dividend of 5 per cent (3½ per cent) is recommended on the ordinary shares.

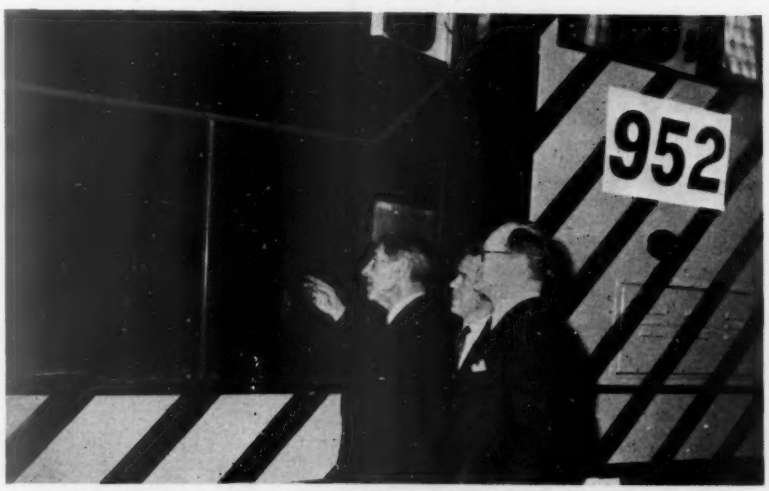
Road Passenger Vehicles for S.A.R.—A fleet of 200-h.p. 61-passenger vehicles has been ordered from Albion Motors Limited for the country road passenger services of the South African Railways & Harbours Administration. The contract covers 20 of these chassis which have been specially designed for these services and for operation over secondary roads classed as moderate to severe. They will be equipped with six-speed gearboxes—the sixth speed being an overdrive gear—to give a road speed of 57 m.p.h. The vehicles will be built to stand up to gruelling conditions. This new vehicle will be known as the "Royal Scot." It is a six-wheeled model with twin rear driving axles, and is designed to operate with a separate trailer, the gross train weight being 46,860 lb. The specification includes the Leyland-Albion 0/900 six-cylinder horizontal diesel engine developing 200 b.h.p., and powerful air-pressure brakes. The mean wheelbase is 19 ft. 6 in. and overall dimensions are 36 ft. long by 8 ft. 2½ in. wide. Tyre equipment is 11·00—22 14-ply, single tyres on all wheels. The chassis are intended to carry a two-compartment body for eight first class and 53 third class passengers.

French National Railways Publicity.—The accompanying illustrations show two of a series of reproductions of 16 coloured posters which have been published by the S.N.C.F. All are by well-known artists. The poster reproduced on the left depicting a typical stretch in the lower valley of the Rhone, is by Yves Brayer; the subject of that on the right, by Roland Oudot, is a Basque country scene, with the Pyrenees in the background. The other 14 posters depict Paris, provincial town, country, and coastal scenes, and Corsica.

Two of a series of French National Railways coloured posters

Mr. C. K. Bird Visits Brush Works.—Mr. C. K. Bird, General Manager, British Railways, Eastern Region, last week visited the Loughborough Works of Brush Electrical Engineering Co. Ltd., where he saw the progress being made in the building of the 1,250-h.p. main-line diesel-electric locomotives which Brush Traction Limited is supplying for operation in the Eastern and North Eastern Regions of British Railways, to the order of the British Transport Commission. The accompanying illustration shows Mr. Bird examining a 660-h.p. Bo-Bo shunting locomotive in company with Mr. Ian T. Morrow, Managing Director of the Brush Group Limited; this locomotive is one of three which are being supplied to the Steel Company of Wales Limited for use in the steelworks at Port Talbot.

New Vessel in Service to Arran.—The *Glen Sannox*, the latest addition to the fleet of the Caledonian Steam Packet Co. Ltd., has taken up regular sailings between the mainland and Arran. The new vessel, built by the Ailsa Shipbuilding Co. Ltd., of Troon, accommodates 1,000 passengers, 40 motorcars and 40 tons of cargo in containers. When cargo is not carried the ship can take a considerably larger number of cars. Commercial vehicles also are carried on the vessel, and arrangements have been made for the conveyance of live stock by the provision of portable stalls



Mr. C. K. Bird inspecting a diesel locomotive on a visit to the Brush works

which can be erected in the cargo deck. A much improved service is now provided to and from Brodick, with four services daily in each direction during the summer.

British Railways Stand at Boys & Girls Exhibition.—Visitors will be able to operate model railway marshalling yard equipment on the British Railways stand at Hulton's Boys & Girls Exhibition which opens at Olympia on August 1. There will be also push-button models of British Railways standard locomotives. The stand has been designed as a "careers" exhibit and British Railways staff will be in attendance to give advice to any girls or boys contemplating a career on British Railways. Among the exhibits will be a full-size replica of a cab of the *Duke of Gloucester* locomotive, No. 71,000, and two model signalling layouts to illustrate developments in this branch of railway equipment. Photographs of "named" trains will also be on display.

British Standard for Electrical Flexible Insulating Sleeving.—The new British Standard (B.S. 2848:1957), based on information supplied by the British Electrical and Allied Industries Research Association, specifies requirements for a range of flexible insulating sleeving of circular section, intended primarily for insulating electrical conductors and the connections of electrical apparatus. Some of the types of sleeving dealt with in the standard, especially the larger sizes, are also suitable for covering and holding together a number of conductors which are already individually insulated. Tests for general factors, such as operating temperature range, climatic conditions and the need for mechanical reinforcement, are dealt with in appendices to the standard. Copies of this standard, which costs 6s., may be obtained from the British Standards Institution, Sales Branch, 2, Park Street, London, W.1.

Awards for Ambulance Aid in London Midland Region.—Four members of the London Midland Region staff have been awarded certificates of merit for rendering outstanding first aid. The presentations were made at Euston by the General Manager, Mr. David Blee; also present at the ceremony were Mr. H. Aidley, Regional Establishment & Staff Officer, and Mr. H. C. Healey, Ambulance Secretary. Driver William Watkinson, of Gorton, rendered outstanding first aid to a boy of nine. While leaning out of a carriage window the boy struck his head on a bridge, causing severe injuries and haemorrhage. At first he was thought to be dead, but Driver Watkinson applied his ambulance knowledge to good effect, and, in the words of a doctor concerned, "a very praiseworthy piece of first aid was rendered." Goods Foreman George Metcalf, of Brunswick, rendered outstanding first aid to a fellow worker seriously injured by a moving wagon in the Brunswick Goods warehouse. He administered expert first aid, and within 15 min. his colleague was on the way to hospital in a comfortable condition. Railway Police Constable James Wilson and Signalman Richard Parkin, both of Carnforth, gave first aid to a shunter who had slipped off the running board of a wagon; the wheel of the engine had run over his leg, almost amputating it. Both applied their ambulance knowledge with such skill that the doctor who received the injured man commented, "The treatment given was prompt, sufficient, and effective. There was little for me to do on arrival."

Forthcoming Meetings

Open currently and until further notice.—British Transport Commission: Historical Exhibition "Transport Treasures" in Shareholders' Meeting Room, Euston Station, from 10 a.m. to 6 p.m. on weekdays, and 2 to 6 p.m. on Sundays. Admission 6d.

July 13 (*Sat.*) to July 20 (*Sat.*).—University of Birmingham Department of Extra-Mural Studies, residential course on canal and railway history, at Preston Montford, near Shrewsbury.

July 18 (*Thu.*).—Model Railway Club, at Caxton Hall, Westminster, S.W.1, at 7.45 p.m. Talk on "Modelling the North Eastern," by Mr. T. Horn.

Railway Stock Market

City fears that inflation dangers are increasing have been reflected in further declines in British Funds with War Loan 3½ per cent falling to the all-time low level of £67¼, while fixed-interest securities generally have declined, where changed. In contrast, industrial and other equity shares have been in demand at higher prices. The emphasis these days is on equity shares because it is argued they are a hedge against inflation, though on the other hand, it cannot be expected that there will be a general increase in dividends in prospect. Rising costs are eating into profit margins in many industries. On the other hand, the City is assuming that companies which will sooner or later have to raise more money by share issues are likely to be somewhat more generous in their dividend payments.

The main feature in railway stocks has been a sharp advance in Canadian Pacifics from $67⅞ a week ago to the new high level of $73¼. White Pass shares strengthened from $22 to $23½. The rise in dollar stocks has followed the British Government ruling that residents in the United Kingdom will in future be able only to buy dollar stocks from other residents in the U.K. This means in effect that the supply of dollar stocks in the London market cannot be increased to any extent and they wll be in short supply. Hence the tendency for prices to rise sharply. The new ruling regarding dollar securities will stop a big drain on British gold and dollar reserves which arose from the operations of currency speculators who operated through Kuwait from where a big flow of dollar securities was coming to the London market. It remains to be seen whether this will strengthen sterling and whether the next gold and dollar reserve figures will reflect the stopping of this dollar drain, though it may not be shown until next month.

Elsewhere, Antofagasta has eased further from 34½ a week ago to 33¼, while the preference stock was fractionally lower at 44, and the Bolivia debentures remained at 93½. United of Havana income stock held its recent improvement to 8½ and the consolidated stock remained at 2¼. Brazil Railway bonds remained at 7, San Paulo Railway 3s. units were 3s. 9d. and Mexican Central "A" bearer debentures were 67½. Chilean Northern 4½ per cent debentures were 41½xd., and Costa Rica ordinary stock 22. Dorada ordinary stock has been marked up from 58½ to 60½ on the latest developments. Taltal Railway shares changed hands at 12s. 6d. and business at £98 was recorded in Guayaquil & Quito first bonds.

In other directions, Nyasaland Railways shares have maintained their rise to 12s. 6d. and the debentures were 61½.

Among shares of locomotive builders and engineers, North British Locomotive remained active, and have rallied from 19s. 3d. to 20s. 3d. Hurst Nelson at 36s. eased slightly, while among other shares, Birmingham Wagon have risen afresh from 19s. 10½d. to 21s. Beyer Peacock 5s. shares remained active around 11s. Charles Roberts 5s. shares were again 12s. 7½d. with Westinghouse slightly higher on balance at 39s. 6d. Moreover, Gloucester Wagon 10s. shares have risen from 16s. 3d. to 17s. Wagon Repairs 5s. shares were again 13s. 9d.

Associated Electrical have rallied from 61s. 9d. to 62s. 6d. General Electric from 54s. to 54s. 9d. while English Electric have been prominent with a rise of 1s. 6d. to 62s. 9d. G. D. Peters kept at 27s. Pressed Steel 5s. shares were 17s. 7½d., F. Perkins 10s. shares 15s. 1½d. and Ruston & Hornsby were up to 35s. 6d. on the Chairman's statement that the company's order book is higher than a year ago. There has been further activity in British Oxygen which, however, at 38s. 3d. lost part of last week's advance. B. I. Cables were higher at 51s. 6d. and British Timken shares advanced from 63s. 3d. to 66s. The higher interim dividend declared by Dorman Long made steel more active in the hope that this may indicate a somewhat more liberal dividend policy in future.

OFFICIAL NOTICES

COMMERCIAL ASSISTANT FOR GENERAL MANAGER. British Railway in Central Africa requires a Commercial Assistant for General Manager's office; Age 40-45; married man preferred. He should have good knowledge and experience of railway rating, public relations and commercial side of railway operation. Minimum basic salary £1,850 p.a., family allowance; unfurnished house rent free; contributory medical aid and pension schemes; six months' leave on full pay every 3/3¼ years with free passages.—Write, giving full details education, experience and marital status, to Box "H.N.," c/o J. W. Vickers & Co. Ltd., 7/8, Great Winchester Street, London, E.C.2.

GENERAL ASSISTANT FOR GENERAL MANAGER. British Railway in Central Africa requires an Assistant for General Manager's office; age 30-35; married man preferred. He should have experience in drafting and preparation of reports and statistics; some railway experience essential. Minimum basic salary not less than £1,000 p.a., depending on qualifications; family allowance; unfurnished house rent free; contributory medical aid and pension schemes; six months' leave on full pay every 3/3¼ years with free passages.—Write, giving full details education, experience and marital status, to Box "G.M.," c/o J. W. Vickers & Co. Ltd., 7/8, Great Winchester Street, London, E.C.2.

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